Full wwPDB EM Validation Report ⓘ

Jan 26, 2023 – 12:23 PM JST

PDB ID	:	8HHZ
EMDB ID	:	EMD-34808
Title	:	SARS-CoV-2 Omicron BA.1 Spike in complex with IY-2A
Authors	:	Chen, X.; Mohapatra, A.; Wu, Y.-M.
Deposited on	:	2022-11-17
Resolution	:	4.28 Å(reported)

This is a Full wwPDB EM Validation Report for a publicly released PDB entry.

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

The following versions of software and data (see references ⓘ) were used in the production of this report:

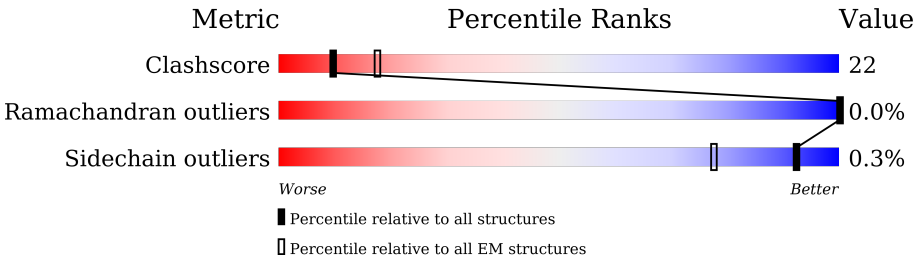
EMDB validation analysis	:	0.0.1.dev43
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.3

1 Overall quality at a glance

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 4.28 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion < 40%). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	1261	19% 46% 32% 23%
1	B	1261	14% 46% 31% 22%
1	C	1261	13% 45% 33% 22%
2	E	224	56% 62% 37%
2	G	224	65% 67% 33%
2	I	224	30% 65% 34%
3	F	216	49% 66% 32%
3	H	216	83% 76% 22%

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Mol	Chain	Length	Quality of chain
3	J	216	

2 Entry composition (i)

There are 3 unique types of molecules in this entry. The entry contains 32020 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called Spike glycoprotein.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	977	Total	C	N	O	S	0	0
			7429	4770	1227	1401	31		
1	B	981	Total	C	N	O	S	0	0
			7424	4762	1229	1401	32		
1	C	980	Total	C	N	O	S	0	0
			7438	4785	1227	1394	32		

There are 330 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-5	MET	-	initiating methionine	UNP P0DTC2
A	-4	LYS	-	expression tag	UNP P0DTC2
A	-3	VAL	-	expression tag	UNP P0DTC2
A	-2	LYS	-	expression tag	UNP P0DTC2
A	-1	LEU	-	expression tag	UNP P0DTC2
A	0	LEU	-	expression tag	UNP P0DTC2
A	1	VAL	-	expression tag	UNP P0DTC2
A	2	LEU	-	expression tag	UNP P0DTC2
A	3	LEU	-	expression tag	UNP P0DTC2
A	4	CYS	-	expression tag	UNP P0DTC2
A	5	THR	-	expression tag	UNP P0DTC2
A	6	PHE	-	expression tag	UNP P0DTC2
A	7	THR	-	expression tag	UNP P0DTC2
A	8	ALA	-	expression tag	UNP P0DTC2
A	9	THR	-	expression tag	UNP P0DTC2
A	10	TYR	-	expression tag	UNP P0DTC2
A	11	ALA	-	expression tag	UNP P0DTC2
A	12	GLY	-	expression tag	UNP P0DTC2
A	13	THR	-	expression tag	UNP P0DTC2
A	67	VAL	ALA	variant	UNP P0DTC2
A	?	-	HIS	deletion	UNP P0DTC2
A	?	-	VAL	deletion	UNP P0DTC2
A	95	ILE	THR	variant	UNP P0DTC2
A	142	ASP	GLY	variant	UNP P0DTC2

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Chain	Residue	Modelled	Actual	Comment	Reference
A	?	-	VAL	deletion	UNP P0DTC2
A	?	-	TYR	deletion	UNP P0DTC2
A	?	-	TYR	deletion	UNP P0DTC2
A	210A	ILE	LEU	variant	UNP P0DTC2
A	210D	GLU	-	insertion	UNP P0DTC2
A	210E	PRO	-	insertion	UNP P0DTC2
A	210F	GLU	-	insertion	UNP P0DTC2
A	339	ASP	GLY	variant	UNP P0DTC2
A	371	LEU	SER	variant	UNP P0DTC2
A	373	PRO	SER	variant	UNP P0DTC2
A	375	PHE	SER	variant	UNP P0DTC2
A	417	ASN	LYS	variant	UNP P0DTC2
A	440	LYS	ASN	variant	UNP P0DTC2
A	446	SER	GLY	variant	UNP P0DTC2
A	477	ASN	SER	variant	UNP P0DTC2
A	478	LYS	THR	variant	UNP P0DTC2
A	484	ALA	GLU	variant	UNP P0DTC2
A	493	ARG	GLN	variant	UNP P0DTC2
A	496	SER	GLY	variant	UNP P0DTC2
A	498	ARG	GLN	variant	UNP P0DTC2
A	501	TYR	ASN	variant	UNP P0DTC2
A	505	HIS	TYR	variant	UNP P0DTC2
A	547	LYS	THR	variant	UNP P0DTC2
A	614	GLY	ASP	variant	UNP P0DTC2
A	655	TYR	HIS	variant	UNP P0DTC2
A	679	LYS	ASN	variant	UNP P0DTC2
A	681	HIS	PRO	variant	UNP P0DTC2
A	682	GLY	ARG	variant	UNP P0DTC2
A	683	SER	ARG	variant	UNP P0DTC2
A	685	SER	ARG	variant	UNP P0DTC2
A	764	LYS	ASN	variant	UNP P0DTC2
A	796	TYR	ASP	variant	UNP P0DTC2
A	856	LYS	ASN	variant	UNP P0DTC2
A	954	HIS	GLN	variant	UNP P0DTC2
A	969	LYS	ASN	variant	UNP P0DTC2
A	981	PHE	LEU	variant	UNP P0DTC2
A	986	PRO	LYS	variant	UNP P0DTC2
A	987	PRO	VAL	variant	UNP P0DTC2
A	1211	LYS	-	expression tag	UNP P0DTC2
A	1212	ASP	-	expression tag	UNP P0DTC2
A	1213	ILE	-	expression tag	UNP P0DTC2
A	1214	ARG	-	expression tag	UNP P0DTC2

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Chain	Residue	Modelled	Actual	Comment	Reference
A	1215	SER	-	expression tag	UNP P0DTC2
A	1216	LEU	-	expression tag	UNP P0DTC2
A	1217	VAL	-	expression tag	UNP P0DTC2
A	1218	PRO	-	expression tag	UNP P0DTC2
A	1219	ARG	-	expression tag	UNP P0DTC2
A	1220	GLY	-	expression tag	UNP P0DTC2
A	1221	SER	-	expression tag	UNP P0DTC2
A	1222	PRO	-	expression tag	UNP P0DTC2
A	1223	GLY	-	expression tag	UNP P0DTC2
A	1224	SER	-	expression tag	UNP P0DTC2
A	1225	GLY	-	expression tag	UNP P0DTC2
A	1226	TYR	-	expression tag	UNP P0DTC2
A	1227	ILE	-	expression tag	UNP P0DTC2
A	1228	PRO	-	expression tag	UNP P0DTC2
A	1229	GLU	-	expression tag	UNP P0DTC2
A	1230	ALA	-	expression tag	UNP P0DTC2
A	1231	PRO	-	expression tag	UNP P0DTC2
A	1232	ARG	-	expression tag	UNP P0DTC2
A	1233	ASP	-	expression tag	UNP P0DTC2
A	1234	GLY	-	expression tag	UNP P0DTC2
A	1235	GLN	-	expression tag	UNP P0DTC2
A	1236	ALA	-	expression tag	UNP P0DTC2
A	1237	TYR	-	expression tag	UNP P0DTC2
A	1238	VAL	-	expression tag	UNP P0DTC2
A	1239	ARG	-	expression tag	UNP P0DTC2
A	1240	LYS	-	expression tag	UNP P0DTC2
A	1241	ASP	-	expression tag	UNP P0DTC2
A	1242	GLY	-	expression tag	UNP P0DTC2
A	1243	GLU	-	expression tag	UNP P0DTC2
A	1244	TRP	-	expression tag	UNP P0DTC2
A	1245	VAL	-	expression tag	UNP P0DTC2
A	1246	LEU	-	expression tag	UNP P0DTC2
A	1247	LEU	-	expression tag	UNP P0DTC2
A	1248	SER	-	expression tag	UNP P0DTC2
A	1249	THR	-	expression tag	UNP P0DTC2
A	1250	PHE	-	expression tag	UNP P0DTC2
A	1251	LEU	-	expression tag	UNP P0DTC2
A	1252	GLY	-	expression tag	UNP P0DTC2
A	1253	HIS	-	expression tag	UNP P0DTC2
A	1254	HIS	-	expression tag	UNP P0DTC2
A	1255	HIS	-	expression tag	UNP P0DTC2
A	1256	HIS	-	expression tag	UNP P0DTC2

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Chain	Residue	Modelled	Actual	Comment	Reference
A	1257	HIS	-	expression tag	UNP P0DTC2
A	1258	HIS	-	expression tag	UNP P0DTC2
B	-5	MET	-	initiating methionine	UNP P0DTC2
B	-4	LYS	-	expression tag	UNP P0DTC2
B	-3	VAL	-	expression tag	UNP P0DTC2
B	-2	LYS	-	expression tag	UNP P0DTC2
B	-1	LEU	-	expression tag	UNP P0DTC2
B	0	LEU	-	expression tag	UNP P0DTC2
B	1	VAL	-	expression tag	UNP P0DTC2
B	2	LEU	-	expression tag	UNP P0DTC2
B	3	LEU	-	expression tag	UNP P0DTC2
B	4	CYS	-	expression tag	UNP P0DTC2
B	5	THR	-	expression tag	UNP P0DTC2
B	6	PHE	-	expression tag	UNP P0DTC2
B	7	THR	-	expression tag	UNP P0DTC2
B	8	ALA	-	expression tag	UNP P0DTC2
B	9	THR	-	expression tag	UNP P0DTC2
B	10	TYR	-	expression tag	UNP P0DTC2
B	11	ALA	-	expression tag	UNP P0DTC2
B	12	GLY	-	expression tag	UNP P0DTC2
B	13	THR	-	expression tag	UNP P0DTC2
B	67	VAL	ALA	variant	UNP P0DTC2
B	?	-	HIS	deletion	UNP P0DTC2
B	?	-	VAL	deletion	UNP P0DTC2
B	95	ILE	THR	variant	UNP P0DTC2
B	142	ASP	GLY	variant	UNP P0DTC2
B	?	-	VAL	deletion	UNP P0DTC2
B	?	-	TYR	deletion	UNP P0DTC2
B	?	-	TYR	deletion	UNP P0DTC2
B	210A	ILE	LEU	variant	UNP P0DTC2
B	210D	GLU	-	insertion	UNP P0DTC2
B	210E	PRO	-	insertion	UNP P0DTC2
B	210F	GLU	-	insertion	UNP P0DTC2
B	339	ASP	GLY	variant	UNP P0DTC2
B	371	LEU	SER	variant	UNP P0DTC2
B	373	PRO	SER	variant	UNP P0DTC2
B	375	PHE	SER	variant	UNP P0DTC2
B	417	ASN	LYS	variant	UNP P0DTC2
B	440	LYS	ASN	variant	UNP P0DTC2
B	446	SER	GLY	variant	UNP P0DTC2
B	477	ASN	SER	variant	UNP P0DTC2
B	478	LYS	THR	variant	UNP P0DTC2

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Chain	Residue	Modelled	Actual	Comment	Reference
B	484	ALA	GLU	variant	UNP P0DTC2
B	493	ARG	GLN	variant	UNP P0DTC2
B	496	SER	GLY	variant	UNP P0DTC2
B	498	ARG	GLN	variant	UNP P0DTC2
B	501	TYR	ASN	variant	UNP P0DTC2
B	505	HIS	TYR	variant	UNP P0DTC2
B	547	LYS	THR	variant	UNP P0DTC2
B	614	GLY	ASP	variant	UNP P0DTC2
B	655	TYR	HIS	variant	UNP P0DTC2
B	679	LYS	ASN	variant	UNP P0DTC2
B	681	HIS	PRO	variant	UNP P0DTC2
B	682	GLY	ARG	variant	UNP P0DTC2
B	683	SER	ARG	variant	UNP P0DTC2
B	685	SER	ARG	variant	UNP P0DTC2
B	764	LYS	ASN	variant	UNP P0DTC2
B	796	TYR	ASP	variant	UNP P0DTC2
B	856	LYS	ASN	variant	UNP P0DTC2
B	954	HIS	GLN	variant	UNP P0DTC2
B	969	LYS	ASN	variant	UNP P0DTC2
B	981	PHE	LEU	variant	UNP P0DTC2
B	986	PRO	LYS	variant	UNP P0DTC2
B	987	PRO	VAL	variant	UNP P0DTC2
B	1211	LYS	-	expression tag	UNP P0DTC2
B	1212	ASP	-	expression tag	UNP P0DTC2
B	1213	ILE	-	expression tag	UNP P0DTC2
B	1214	ARG	-	expression tag	UNP P0DTC2
B	1215	SER	-	expression tag	UNP P0DTC2
B	1216	LEU	-	expression tag	UNP P0DTC2
B	1217	VAL	-	expression tag	UNP P0DTC2
B	1218	PRO	-	expression tag	UNP P0DTC2
B	1219	ARG	-	expression tag	UNP P0DTC2
B	1220	GLY	-	expression tag	UNP P0DTC2
B	1221	SER	-	expression tag	UNP P0DTC2
B	1222	PRO	-	expression tag	UNP P0DTC2
B	1223	GLY	-	expression tag	UNP P0DTC2
B	1224	SER	-	expression tag	UNP P0DTC2
B	1225	GLY	-	expression tag	UNP P0DTC2
B	1226	TYR	-	expression tag	UNP P0DTC2
B	1227	ILE	-	expression tag	UNP P0DTC2
B	1228	PRO	-	expression tag	UNP P0DTC2
B	1229	GLU	-	expression tag	UNP P0DTC2
B	1230	ALA	-	expression tag	UNP P0DTC2

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Chain	Residue	Modelled	Actual	Comment	Reference
B	1231	PRO	-	expression tag	UNP P0DTC2
B	1232	ARG	-	expression tag	UNP P0DTC2
B	1233	ASP	-	expression tag	UNP P0DTC2
B	1234	GLY	-	expression tag	UNP P0DTC2
B	1235	GLN	-	expression tag	UNP P0DTC2
B	1236	ALA	-	expression tag	UNP P0DTC2
B	1237	TYR	-	expression tag	UNP P0DTC2
B	1238	VAL	-	expression tag	UNP P0DTC2
B	1239	ARG	-	expression tag	UNP P0DTC2
B	1240	LYS	-	expression tag	UNP P0DTC2
B	1241	ASP	-	expression tag	UNP P0DTC2
B	1242	GLY	-	expression tag	UNP P0DTC2
B	1243	GLU	-	expression tag	UNP P0DTC2
B	1244	TRP	-	expression tag	UNP P0DTC2
B	1245	VAL	-	expression tag	UNP P0DTC2
B	1246	LEU	-	expression tag	UNP P0DTC2
B	1247	LEU	-	expression tag	UNP P0DTC2
B	1248	SER	-	expression tag	UNP P0DTC2
B	1249	THR	-	expression tag	UNP P0DTC2
B	1250	PHE	-	expression tag	UNP P0DTC2
B	1251	LEU	-	expression tag	UNP P0DTC2
B	1252	GLY	-	expression tag	UNP P0DTC2
B	1253	HIS	-	expression tag	UNP P0DTC2
B	1254	HIS	-	expression tag	UNP P0DTC2
B	1255	HIS	-	expression tag	UNP P0DTC2
B	1256	HIS	-	expression tag	UNP P0DTC2
B	1257	HIS	-	expression tag	UNP P0DTC2
B	1258	HIS	-	expression tag	UNP P0DTC2
C	-5	MET	-	initiating methionine	UNP P0DTC2
C	-4	LYS	-	expression tag	UNP P0DTC2
C	-3	VAL	-	expression tag	UNP P0DTC2
C	-2	LYS	-	expression tag	UNP P0DTC2
C	-1	LEU	-	expression tag	UNP P0DTC2
C	0	LEU	-	expression tag	UNP P0DTC2
C	1	VAL	-	expression tag	UNP P0DTC2
C	2	LEU	-	expression tag	UNP P0DTC2
C	3	LEU	-	expression tag	UNP P0DTC2
C	4	CYS	-	expression tag	UNP P0DTC2
C	5	THR	-	expression tag	UNP P0DTC2
C	6	PHE	-	expression tag	UNP P0DTC2
C	7	THR	-	expression tag	UNP P0DTC2
C	8	ALA	-	expression tag	UNP P0DTC2

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Chain	Residue	Modelled	Actual	Comment	Reference
C	9	THR	-	expression tag	UNP P0DTC2
C	10	TYR	-	expression tag	UNP P0DTC2
C	11	ALA	-	expression tag	UNP P0DTC2
C	12	GLY	-	expression tag	UNP P0DTC2
C	13	THR	-	expression tag	UNP P0DTC2
C	67	VAL	ALA	variant	UNP P0DTC2
C	?	-	HIS	deletion	UNP P0DTC2
C	?	-	VAL	deletion	UNP P0DTC2
C	95	ILE	THR	variant	UNP P0DTC2
C	142	ASP	GLY	variant	UNP P0DTC2
C	?	-	VAL	deletion	UNP P0DTC2
C	?	-	TYR	deletion	UNP P0DTC2
C	?	-	TYR	deletion	UNP P0DTC2
C	210A	ILE	LEU	variant	UNP P0DTC2
C	210D	GLU	-	insertion	UNP P0DTC2
C	210E	PRO	-	insertion	UNP P0DTC2
C	210F	GLU	-	insertion	UNP P0DTC2
C	339	ASP	GLY	variant	UNP P0DTC2
C	371	LEU	SER	variant	UNP P0DTC2
C	373	PRO	SER	variant	UNP P0DTC2
C	375	PHE	SER	variant	UNP P0DTC2
C	417	ASN	LYS	variant	UNP P0DTC2
C	440	LYS	ASN	variant	UNP P0DTC2
C	446	SER	GLY	variant	UNP P0DTC2
C	477	ASN	SER	variant	UNP P0DTC2
C	478	LYS	THR	variant	UNP P0DTC2
C	484	ALA	GLU	variant	UNP P0DTC2
C	493	ARG	GLN	variant	UNP P0DTC2
C	496	SER	GLY	variant	UNP P0DTC2
C	498	ARG	GLN	variant	UNP P0DTC2
C	501	TYR	ASN	variant	UNP P0DTC2
C	505	HIS	TYR	variant	UNP P0DTC2
C	547	LYS	THR	variant	UNP P0DTC2
C	614	GLY	ASP	variant	UNP P0DTC2
C	655	TYR	HIS	variant	UNP P0DTC2
C	679	LYS	ASN	variant	UNP P0DTC2
C	681	HIS	PRO	variant	UNP P0DTC2
C	682	GLY	ARG	variant	UNP P0DTC2
C	683	SER	ARG	variant	UNP P0DTC2
C	685	SER	ARG	variant	UNP P0DTC2
C	764	LYS	ASN	variant	UNP P0DTC2
C	796	TYR	ASP	variant	UNP P0DTC2

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Chain	Residue	Modelled	Actual	Comment	Reference
C	856	LYS	ASN	variant	UNP P0DTC2
C	954	HIS	GLN	variant	UNP P0DTC2
C	969	LYS	ASN	variant	UNP P0DTC2
C	981	PHE	LEU	variant	UNP P0DTC2
C	986	PRO	LYS	variant	UNP P0DTC2
C	987	PRO	VAL	variant	UNP P0DTC2
C	1211	LYS	-	expression tag	UNP P0DTC2
C	1212	ASP	-	expression tag	UNP P0DTC2
C	1213	ILE	-	expression tag	UNP P0DTC2
C	1214	ARG	-	expression tag	UNP P0DTC2
C	1215	SER	-	expression tag	UNP P0DTC2
C	1216	LEU	-	expression tag	UNP P0DTC2
C	1217	VAL	-	expression tag	UNP P0DTC2
C	1218	PRO	-	expression tag	UNP P0DTC2
C	1219	ARG	-	expression tag	UNP P0DTC2
C	1220	GLY	-	expression tag	UNP P0DTC2
C	1221	SER	-	expression tag	UNP P0DTC2
C	1222	PRO	-	expression tag	UNP P0DTC2
C	1223	GLY	-	expression tag	UNP P0DTC2
C	1224	SER	-	expression tag	UNP P0DTC2
C	1225	GLY	-	expression tag	UNP P0DTC2
C	1226	TYR	-	expression tag	UNP P0DTC2
C	1227	ILE	-	expression tag	UNP P0DTC2
C	1228	PRO	-	expression tag	UNP P0DTC2
C	1229	GLU	-	expression tag	UNP P0DTC2
C	1230	ALA	-	expression tag	UNP P0DTC2
C	1231	PRO	-	expression tag	UNP P0DTC2
C	1232	ARG	-	expression tag	UNP P0DTC2
C	1233	ASP	-	expression tag	UNP P0DTC2
C	1234	GLY	-	expression tag	UNP P0DTC2
C	1235	GLN	-	expression tag	UNP P0DTC2
C	1236	ALA	-	expression tag	UNP P0DTC2
C	1237	TYR	-	expression tag	UNP P0DTC2
C	1238	VAL	-	expression tag	UNP P0DTC2
C	1239	ARG	-	expression tag	UNP P0DTC2
C	1240	LYS	-	expression tag	UNP P0DTC2
C	1241	ASP	-	expression tag	UNP P0DTC2
C	1242	GLY	-	expression tag	UNP P0DTC2
C	1243	GLU	-	expression tag	UNP P0DTC2
C	1244	TRP	-	expression tag	UNP P0DTC2
C	1245	VAL	-	expression tag	UNP P0DTC2
C	1246	LEU	-	expression tag	UNP P0DTC2

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Chain	Residue	Modelled	Actual	Comment	Reference
C	1247	LEU	-	expression tag	UNP P0DTC2
C	1248	SER	-	expression tag	UNP P0DTC2
C	1249	THR	-	expression tag	UNP P0DTC2
C	1250	PHE	-	expression tag	UNP P0DTC2
C	1251	LEU	-	expression tag	UNP P0DTC2
C	1252	GLY	-	expression tag	UNP P0DTC2
C	1253	HIS	-	expression tag	UNP P0DTC2
C	1254	HIS	-	expression tag	UNP P0DTC2
C	1255	HIS	-	expression tag	UNP P0DTC2
C	1256	HIS	-	expression tag	UNP P0DTC2
C	1257	HIS	-	expression tag	UNP P0DTC2
C	1258	HIS	-	expression tag	UNP P0DTC2

- Molecule 2 is a protein called IY-2A Fab heavy chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	E	223	Total	C	N	O	S	0	0
			1650	1052	271	323	4		
2	G	223	Total	C	N	O	S	0	0
			1650	1052	271	323	4		
2	I	223	Total	C	N	O	S	0	0
			1650	1052	271	323	4		

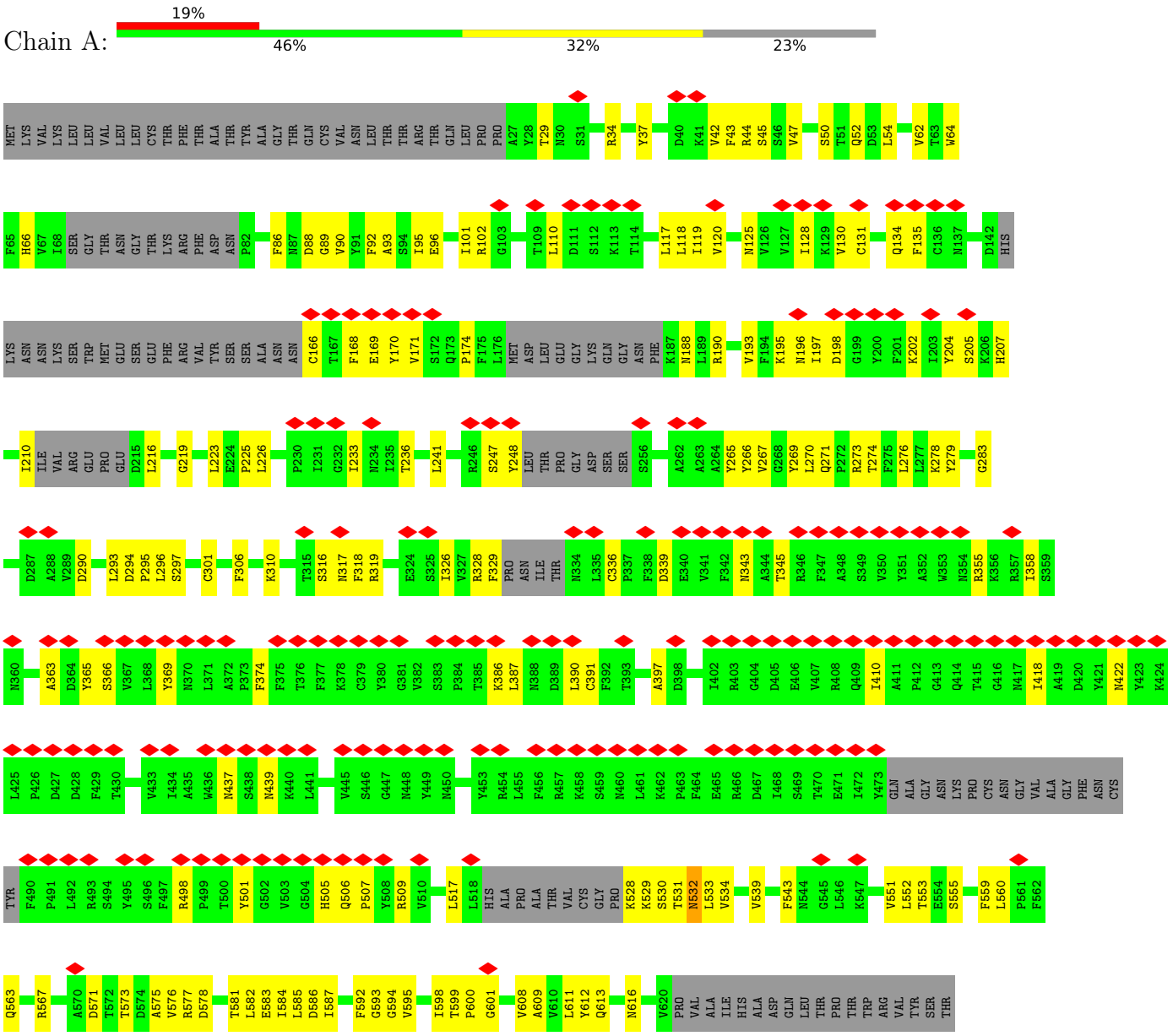
- Molecule 3 is a protein called IY-2A Fab light chain.

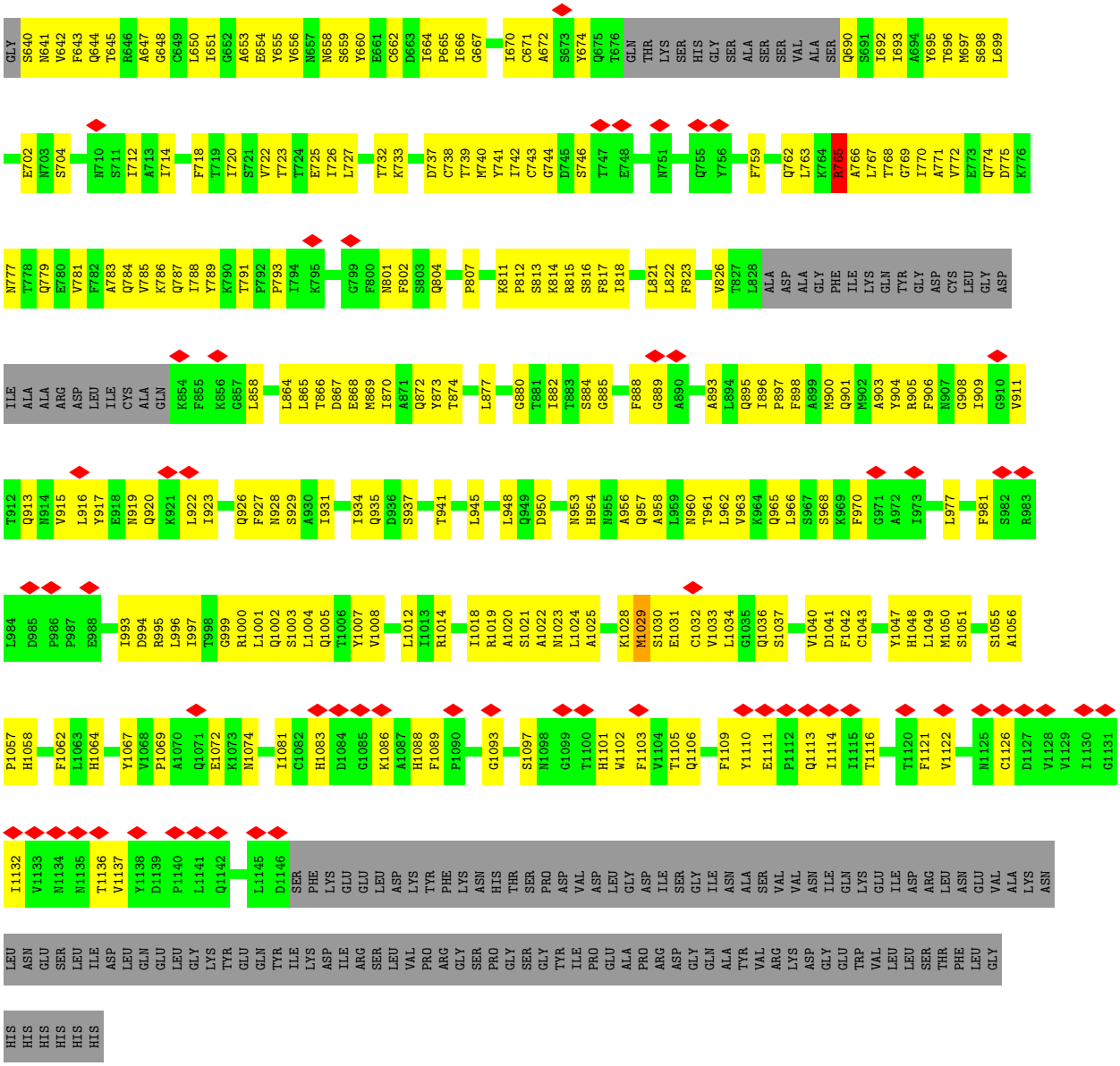
Mol	Chain	Residues	Atoms					AltConf	Trace
3	F	212	Total	C	N	O	S	0	0
			1593	992	265	331	5		
3	H	212	Total	C	N	O	S	0	0
			1593	992	265	331	5		
3	J	212	Total	C	N	O	S	0	0
			1593	992	265	331	5		

3 Residue-property plots (i)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

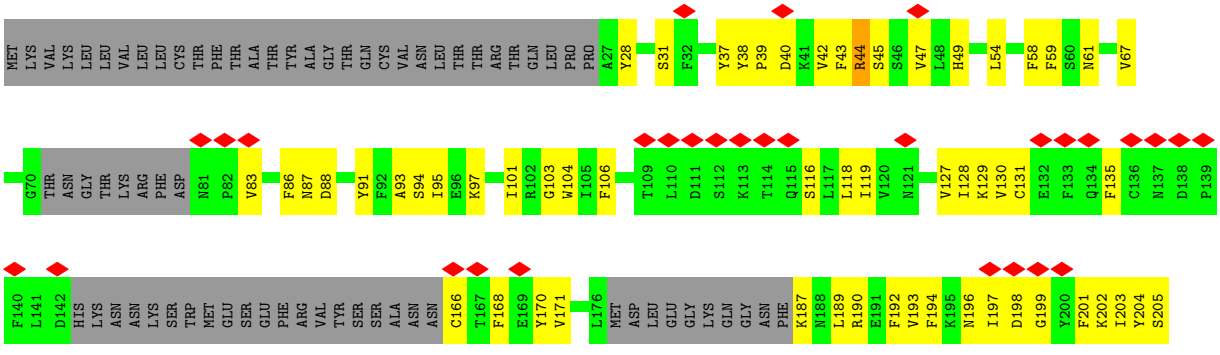
- Molecule 1: Spike glycoprotein

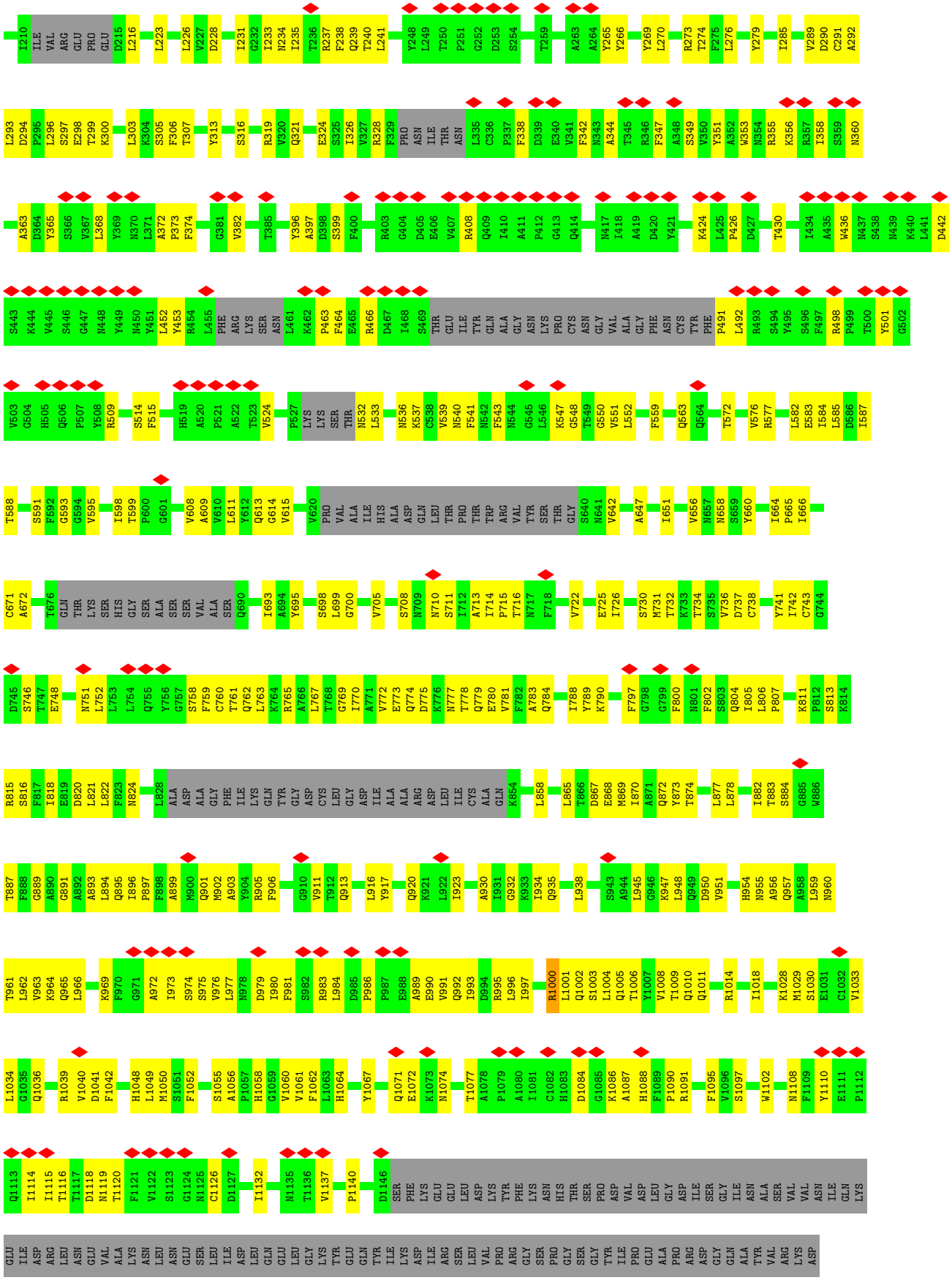




• Molecule 1: Spike glycoprotein

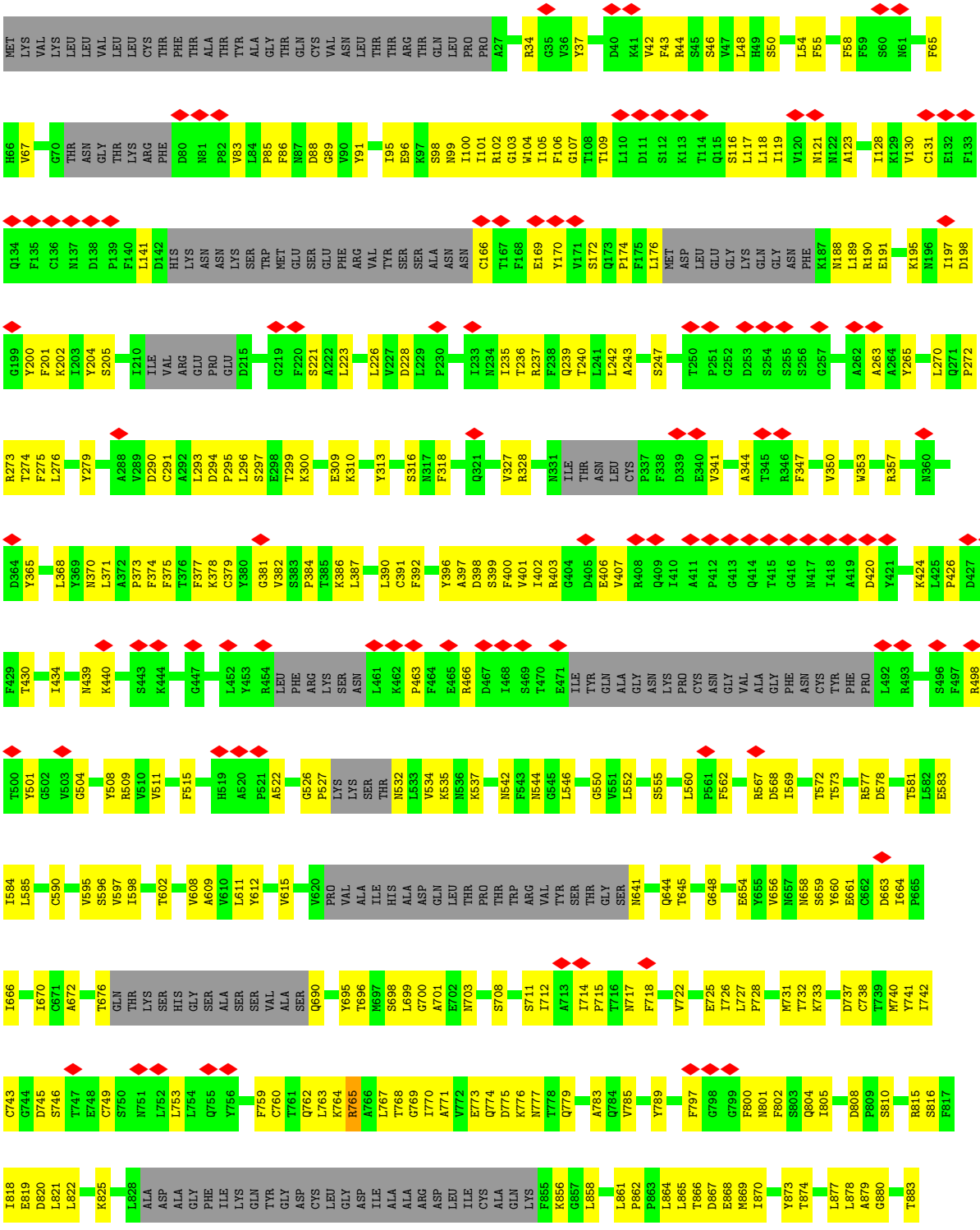
Chain B:

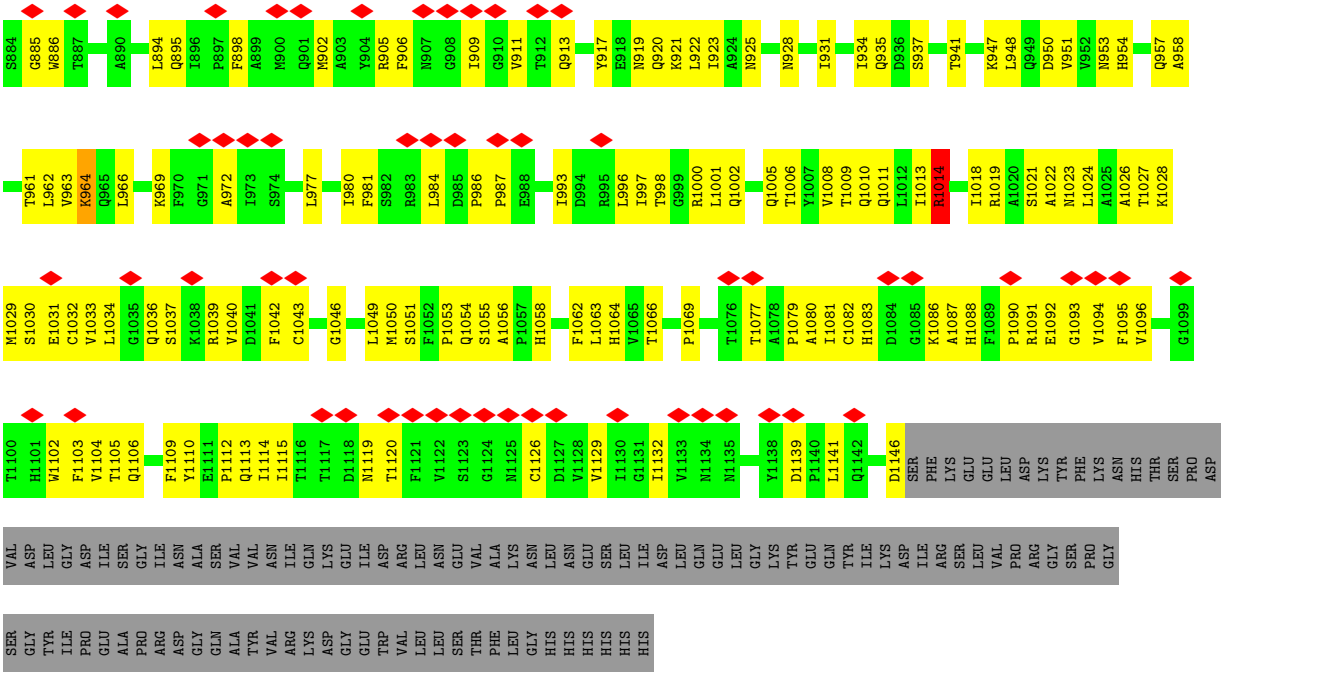




• Molecule 1: Spike glycoprotein

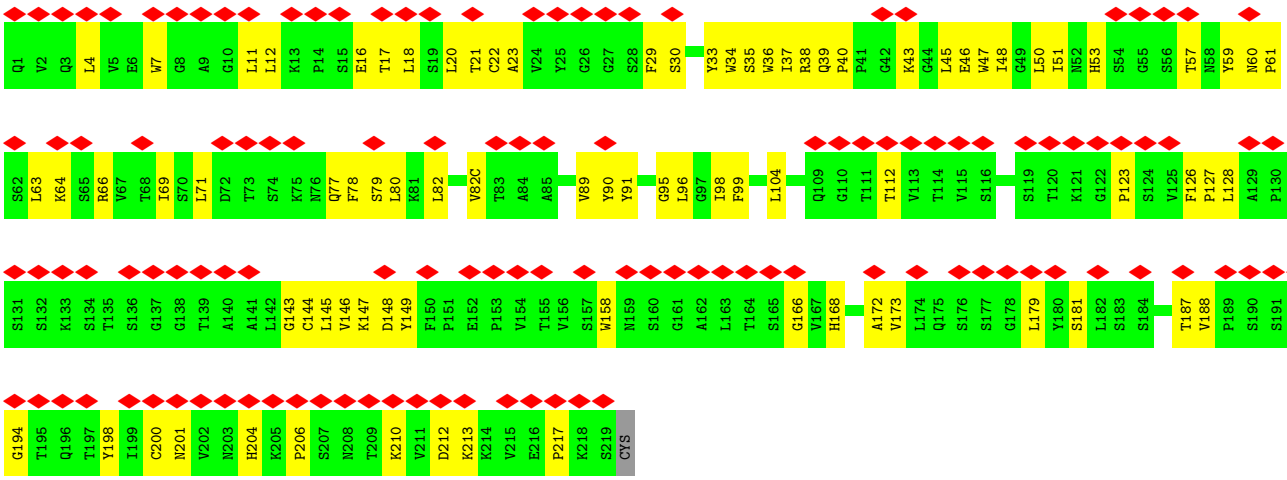
Chain C:





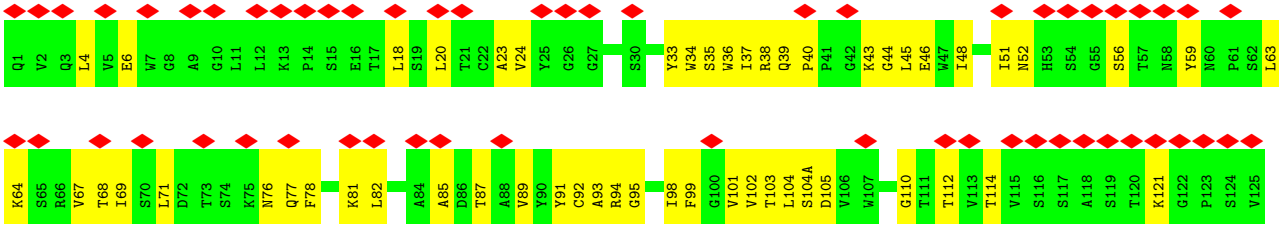
- Molecule 2: IY-2A Fab heavy chain

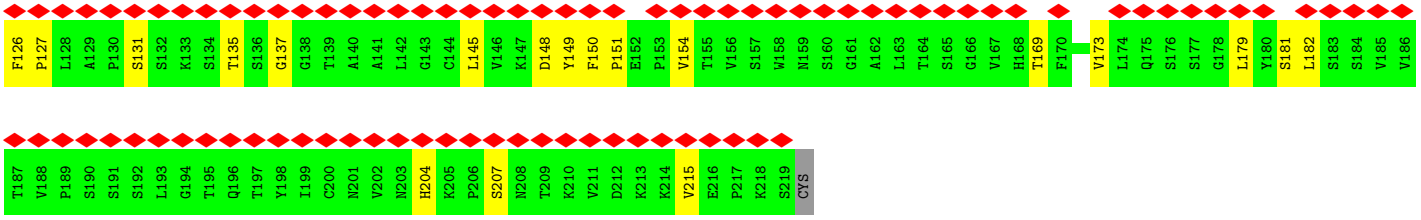
Chain E:



- Molecule 2: IY-2A Fab heavy chain

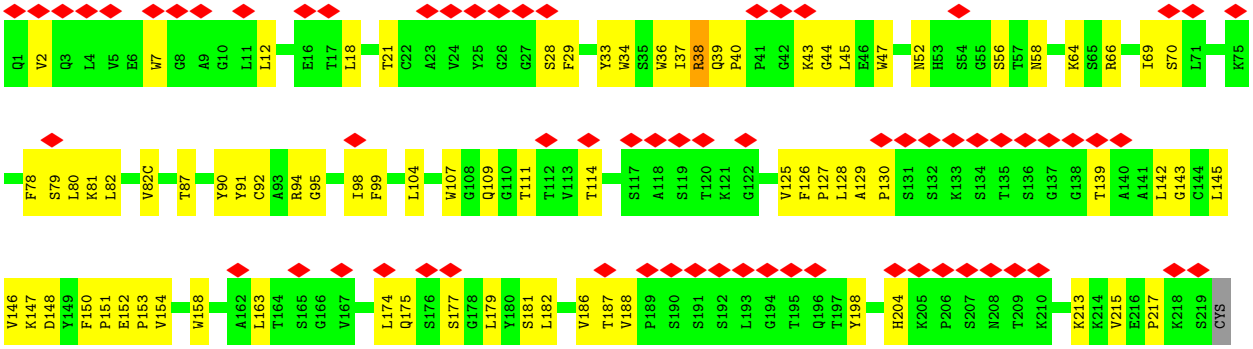
Chain G:





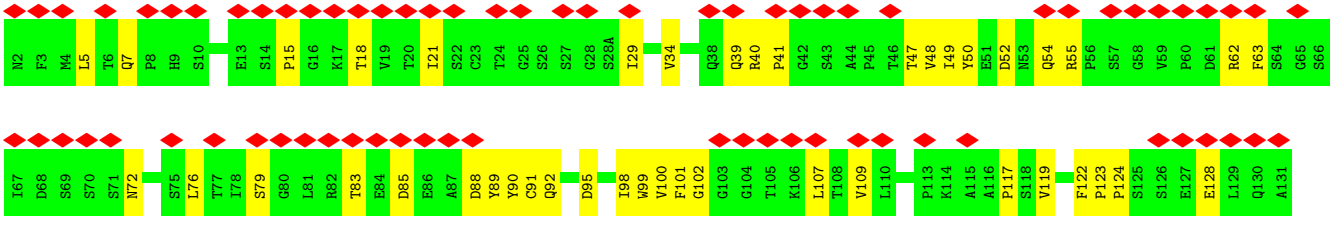
• Molecule 2: IY-2A Fab heavy chain

Chain I:



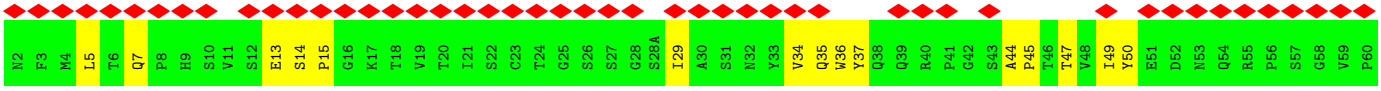
• Molecule 3: IY-2A Fab light chain

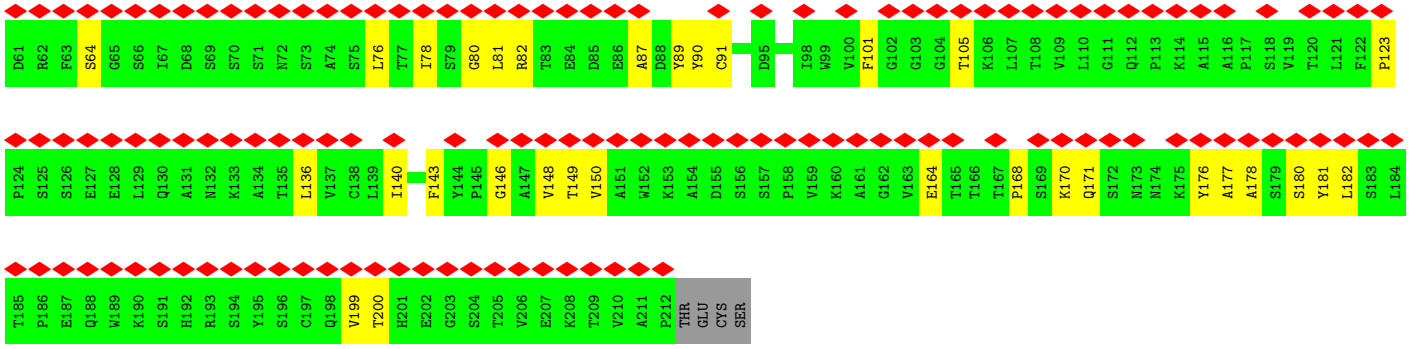
Chain F:



• Molecule 3: IY-2A Fab light chain

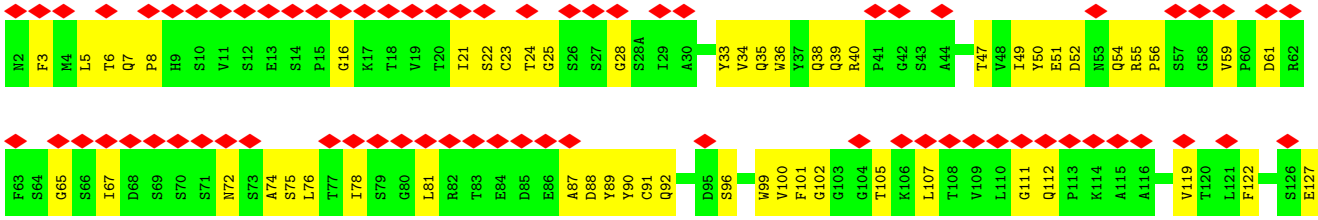
Chain H:





• Molecule 3: IY-2A Fab light chain

Chain J:



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	67276	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	1.1	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	0.044	Depositor
Minimum map value	-0.026	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.001	Depositor
Recommended contour level	0.0037	Depositor
Map size (Å)	343.43997, 343.43997, 343.43997	wwPDB
Map dimensions	324, 324, 324	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.06, 1.06, 1.06	Depositor

5 Model quality

5.1 Standard geometry

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\#\|Z\| > 5$	RMSZ	$\#\|Z\| > 5$
1	A	0.31	0/7599	0.53	2/10368 (0.0%)
1	B	0.31	0/7595	0.53	0/10366
1	C	0.31	0/7610	0.53	1/10381 (0.0%)
2	E	0.26	0/1692	0.51	0/2314
2	G	0.26	0/1692	0.52	0/2314
2	I	0.26	0/1692	0.50	0/2314
3	F	0.27	0/1633	0.49	0/2231
3	H	0.25	0/1633	0.49	0/2231
3	J	0.27	0/1633	0.50	1/2231 (0.0%)
All	All	0.30	0/32779	0.52	4/44750 (0.0%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand.A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	C	0	1

There are no bond length outliers.

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	765	ARG	CB-CG-CD	6.64	128.88	111.60
3	J	166	THR	C-N-CA	5.82	136.25	121.70
1	A	1029	MET	CG-SD-CE	-5.45	91.47	100.20
1	C	1014	ARG	CG-CD-NE	-5.01	101.27	111.80

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	C	1014	ARG	Sidechain

5.2 Too-close contacts (i)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	7429	0	7032	373	0
1	B	7424	0	7026	335	0
1	C	7438	0	7090	377	0
2	E	1650	0	1640	75	0
2	G	1650	0	1640	62	0
2	I	1650	0	1640	75	0
3	F	1593	0	1519	62	0
3	H	1593	0	1519	37	0
3	J	1593	0	1519	66	0
All	All	32020	0	30625	1383	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 22.

All (1383) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:95:ILE:CG1	1:C:189:LEU:HD13	1.29	1.61
1:B:981:PHE:CZ	1:B:993:ILE:HG13	1.59	1.36
1:C:95:ILE:CG1	1:C:189:LEU:CD1	2.09	1.30
1:A:977:LEU:O	1:A:981:PHE:CD2	1.83	1.29
1:A:387:LEU:O	1:A:530:SER:HB3	1.24	1.29
1:A:981:PHE:CZ	1:A:993:ILE:HD12	1.66	1.29
1:C:95:ILE:HG13	1:C:189:LEU:CD1	1.61	1.27
1:A:977:LEU:HB3	1:A:981:PHE:CE2	1.69	1.26
1:A:981:PHE:CE1	1:A:993:ILE:HD12	1.72	1.23
1:C:95:ILE:CD1	1:C:189:LEU:HD13	1.71	1.18
1:A:977:LEU:O	1:A:981:PHE:HD2	1.14	1.14
1:A:387:LEU:O	1:A:530:SER:CB	1.98	1.10
1:A:977:LEU:CB	1:A:981:PHE:HE2	1.64	1.10
1:B:67:VAL:CG2	1:B:265:TYR:HE2	1.66	1.08

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:95:ILE:HG13	1:C:189:LEU:HD13	1.15	1.08
1:B:981:PHE:CE1	1:B:993:ILE:HG13	1.91	1.05
1:C:95:ILE:HG12	1:C:189:LEU:HD13	1.39	1.04
1:B:981:PHE:CZ	1:B:993:ILE:CG1	2.42	1.02
1:A:977:LEU:HB3	1:A:981:PHE:HE2	0.86	1.01
1:A:981:PHE:CE1	1:A:993:ILE:CD1	2.43	1.00
1:B:977:LEU:O	1:B:981:PHE:HD2	1.48	0.96
1:B:67:VAL:CG2	1:B:265:TYR:CE2	2.49	0.96
1:B:977:LEU:O	1:B:981:PHE:CD2	2.19	0.94
1:A:781:VAL:HG13	1:A:1029:MET:HE1	1.49	0.93
1:A:981:PHE:CZ	1:A:993:ILE:CD1	2.51	0.92
2:G:39:GLN:HB2	2:G:45:LEU:HD23	1.53	0.91
1:B:977:LEU:HB3	1:B:981:PHE:HE2	1.36	0.91
1:A:1028:LYS:O	1:A:1032:CYS:HB2	1.72	0.90
1:B:748:GLU:CD	1:B:981:PHE:HE1	1.76	0.89
1:C:95:ILE:HD11	1:C:189:LEU:HD13	1.54	0.89
1:B:95:ILE:HG13	1:B:189:LEU:HD13	1.55	0.88
1:B:541:PHE:O	1:B:547:LYS:HA	1.74	0.87
1:C:95:ILE:HG13	1:C:189:LEU:HD12	1.56	0.87
1:C:95:ILE:HG12	1:C:189:LEU:CD1	1.98	0.87
1:B:1116:THR:HB	1:B:1140:PRO:HD3	1.57	0.86
1:A:958:ALA:HB2	1:A:1014:ARG:HH22	1.41	0.86
1:C:774:GLN:HA	1:C:777:ASN:HD22	1.39	0.85
1:B:572:THR:OG1	1:C:856:LYS:HE2	1.77	0.85
1:C:733:LYS:NZ	1:C:862:PRO:O	2.10	0.84
1:C:931:ILE:HG13	1:C:935:GLN:HE22	1.41	0.84
1:B:981:PHE:CE2	1:B:993:ILE:CD1	2.61	0.84
1:C:905:ARG:HH22	1:C:1050:MET:HB2	1.41	0.84
1:B:67:VAL:HG22	1:B:265:TYR:HE2	1.41	0.83
1:A:714:ILE:O	1:A:1072:GLU:HA	1.78	0.83
1:C:931:ILE:O	1:C:935:GLN:NE2	2.12	0.83
1:A:64:TRP:CE3	1:A:66:HIS:CE1	2.67	0.82
1:A:788:ILE:HD11	1:C:699:LEU:HB2	1.61	0.81
1:A:787:GLN:NE2	1:A:789:TYR:OH	2.13	0.81
1:A:1031:GLU:HB3	1:A:1037:SER:HB2	1.61	0.81
1:B:713:ALA:HB1	1:B:1072:GLU:HB2	1.61	0.81
1:A:290:ASP:O	1:A:297:SER:OG	1.98	0.81
1:A:977:LEU:C	1:A:981:PHE:HD2	1.84	0.81
1:B:1006:THR:HG22	1:B:1010:GLN:HE22	1.46	0.80
3:H:164:GLU:HB2	3:H:181:TYR:HB2	1.61	0.80
1:B:1006:THR:O	1:B:1010:GLN:NE2	2.15	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:46:SER:HA	1:C:279:TYR:O	1.81	0.79
2:G:38:ARG:NH2	2:G:85:ALA:O	2.16	0.79
1:C:1006:THR:O	1:C:1010:GLN:NE2	2.17	0.78
1:B:1002:GLN:HE21	1:C:1002:GLN:HE22	1.29	0.78
3:F:39:GLN:HB3	3:F:88:ASP:HB2	1.64	0.78
1:A:777:ASN:HD21	1:A:1022:ALA:HB3	1.49	0.78
1:A:699:LEU:HG	1:B:788:ILE:HG13	1.65	0.78
1:A:656:VAL:HG22	1:A:658:ASN:H	1.46	0.78
1:B:93:ALA:HB1	1:B:189:LEU:HD11	1.64	0.78
1:B:1091:ARG:NH2	1:B:1118:ASP:O	2.16	0.78
1:B:319:ARG:HH12	1:B:321:GLN:HA	1.49	0.77
1:C:567:ARG:NH1	1:C:573:THR:OG1	2.17	0.77
2:E:96:LEU:HB2	2:E:104:LEU:HB3	1.65	0.77
1:A:977:LEU:C	1:A:981:PHE:CD2	2.56	0.77
1:C:426:PRO:HB3	1:C:463:PRO:HB3	1.66	0.77
1:A:641:ASN:ND2	1:A:654:GLU:OE2	2.18	0.76
1:A:762:GLN:O	1:A:765:ARG:HD3	1.85	0.76
1:A:765:ARG:HH21	1:C:957:GLN:HE22	1.32	0.76
1:C:950:ASP:O	1:C:954:HIS:ND1	2.18	0.76
2:G:52:ASN:HD21	2:G:56:SER:HB2	1.50	0.76
3:H:35:GLN:HE21	3:H:49:ILE:H	1.33	0.76
1:B:736:VAL:HG22	1:B:858:LEU:HG	1.66	0.76
1:B:324:GLU:H	1:B:539:VAL:HG13	1.51	0.76
1:C:386:LYS:HG3	1:C:390:LEU:HG	1.67	0.75
1:A:762:GLN:HB3	1:A:765:ARG:HH11	1.50	0.75
1:B:980:ILE:HG23	1:B:984:LEU:HD12	1.69	0.74
1:B:732:THR:OG1	1:B:955:ASN:ND2	2.19	0.74
1:A:880:GLY:O	1:A:885:GLY:N	2.19	0.74
2:E:71:LEU:HD12	2:E:78:PHE:HB3	1.70	0.74
1:C:1028:LYS:O	1:C:1032:CYS:HB2	1.87	0.74
1:B:656:VAL:HB	1:B:695:TYR:HB3	1.69	0.74
1:A:64:TRP:CD2	1:A:66:HIS:CE1	2.76	0.74
1:B:591:SER:HB2	1:B:615:VAL:HG13	1.69	0.74
1:B:865:LEU:HD12	1:B:873:TYR:HE2	1.51	0.74
3:H:35:GLN:HG3	3:H:49:ILE:HB	1.69	0.74
1:A:1028:LYS:NZ	1:A:1042:PHE:O	2.20	0.73
2:E:166:GLY:HA3	2:E:187:THR:H	1.54	0.73
1:A:880:GLY:HA2	1:A:884:SER:HB2	1.70	0.73
1:B:1028:LYS:NZ	1:B:1042:PHE:O	2.17	0.73
1:B:540:ASN:HA	1:B:548:GLY:O	1.89	0.72
1:C:327:VAL:HA	1:C:542:ASN:HB3	1.69	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:130:VAL:HB	1:B:168:PHE:HB3	1.71	0.72
1:A:674:TYR:HH	1:A:690:GLN:N	1.86	0.72
1:A:779:GLN:O	1:A:783:ALA:N	2.22	0.72
2:I:38:ARG:HD3	2:I:40:PRO:HD3	1.72	0.72
1:A:733:LYS:HE3	1:A:771:ALA:HB1	1.72	0.72
1:A:317:ASN:HB2	1:A:319:ARG:HH11	1.55	0.71
2:I:125:VAL:HB	2:I:213:LYS:HE3	1.72	0.71
1:B:1126:CYS:HB2	1:B:1132:ILE:HD13	1.72	0.71
2:I:146:VAL:HB	2:I:182:LEU:HB3	1.73	0.71
1:C:921:LYS:O	1:C:925:ASN:ND2	2.20	0.71
2:G:45:LEU:HD11	3:H:45:PRO:HB2	1.71	0.71
2:G:94:ARG:NH1	2:G:105:ASP:OD1	2.22	0.71
1:C:106:PHE:HB3	1:C:235:ILE:HD13	1.71	0.71
1:A:310:LYS:HG3	1:A:664:ILE:HD11	1.72	0.71
1:A:870:ILE:HA	1:A:873:TYR:HD2	1.56	0.71
1:B:353:TRP:HZ3	1:B:355:ARG:HB2	1.55	0.71
1:B:802:PHE:HB3	1:B:806:LEU:HD13	1.72	0.71
1:B:1041:ASP:HB3	1:C:1030:SER:HB3	1.71	0.71
1:B:44:ARG:NH2	1:B:279:TYR:OH	2.24	0.71
2:E:20:LEU:HB2	2:E:80:LEU:HB3	1.73	0.71
1:C:205:SER:HB3	1:C:226:LEU:HD12	1.73	0.70
1:B:95:ILE:CG1	1:B:189:LEU:HD13	2.21	0.70
1:C:309:GLU:O	1:C:313:TYR:OH	2.08	0.70
1:B:789:TYR:OH	1:B:891:GLY:O	2.10	0.70
3:F:7:GLN:NE2	3:F:89:TYR:O	2.24	0.70
1:B:748:GLU:OE2	1:B:981:PHE:HE1	1.74	0.70
1:C:767:LEU:HD23	1:C:770:ILE:HD12	1.73	0.70
1:C:774:GLN:NE2	1:C:775:ASP:OD1	2.25	0.70
1:C:611:LEU:HD22	1:C:666:ILE:HG23	1.74	0.70
1:A:666:ILE:HD11	1:A:672:ALA:HB2	1.74	0.70
2:I:145:LEU:HD21	2:I:147:LYS:HE2	1.73	0.69
1:B:903:ALA:HB1	1:B:913:GLN:HG2	1.74	0.69
1:C:195:LYS:HD2	1:C:202:LYS:HD2	1.74	0.69
3:J:28:GLY:O	3:J:72:ASN:ND2	2.26	0.69
1:A:326:ILE:HD13	1:A:534:VAL:HG12	1.74	0.69
1:A:739:THR:O	1:A:744:GLY:N	2.20	0.69
1:B:804:GLN:HG2	1:B:805:ILE:HG23	1.75	0.69
2:I:21:THR:HA	2:I:79:SER:HA	1.75	0.69
1:A:343:ASN:HB2	1:A:369:TYR:HD1	1.58	0.69
1:B:906:PHE:HB3	1:B:911:VAL:HB	1.74	0.69
1:B:977:LEU:HB3	1:B:981:PHE:CE2	2.25	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:805:ILE:HG13	1:B:806:LEU:HD12	1.75	0.68
1:C:86:PHE:N	1:C:236:THR:O	2.24	0.68
1:C:774:GLN:HA	1:C:777:ASN:ND2	2.07	0.68
1:A:763:LEU:HD21	1:A:1005:GLN:HE21	1.58	0.68
1:A:1028:LYS:O	1:A:1032:CYS:CB	2.41	0.68
3:F:48:VAL:HG23	3:F:49:ILE:HD12	1.75	0.68
1:A:931:ILE:O	1:A:935:GLN:NE2	2.25	0.68
3:F:55:ARG:NE	3:F:63:PHE:O	2.27	0.68
1:B:67:VAL:HG23	1:B:265:TYR:CE2	2.27	0.68
1:C:644:GLN:NE2	1:C:648:GLY:O	2.27	0.68
1:C:802:PHE:HD1	1:C:805:ILE:HD11	1.58	0.68
1:B:642:VAL:HG22	1:B:651:ILE:HG12	1.76	0.67
1:B:822:LEU:HD22	1:B:945:LEU:HD21	1.76	0.67
1:C:101:ILE:HB	1:C:190:ARG:HH21	1.59	0.67
1:B:598:ILE:HB	1:B:609:ALA:HB3	1.76	0.67
1:A:54:LEU:HD12	1:A:195:LYS:HD2	1.76	0.67
1:B:290:ASP:HB3	1:B:293:LEU:HD23	1.76	0.67
1:A:928:ASN:HA	1:A:931:ILE:HD12	1.76	0.67
1:C:1024:LEU:O	1:C:1028:LYS:HG2	1.94	0.67
1:A:784:GLN:NE2	1:A:889:GLY:O	2.25	0.67
1:C:1026:ALA:O	1:C:1030:SER:OG	2.13	0.67
2:G:87:THR:HG23	2:G:114:THR:HA	1.77	0.67
1:A:102:ARG:HB2	1:A:241:LEU:HB2	1.77	0.67
1:A:714:ILE:HG21	1:A:1110:TYR:HB2	1.76	0.67
1:B:969:LYS:NZ	1:B:974:SER:O	2.28	0.67
1:B:981:PHE:CZ	1:B:993:ILE:CD1	2.78	0.67
1:C:300:LYS:NZ	1:C:602:THR:OG1	2.28	0.66
1:B:905:ARG:NH2	1:B:1049:LEU:O	2.29	0.66
3:F:168:PRO:HB2	3:F:176:TYR:HD2	1.58	0.66
3:J:5:LEU:HD22	3:J:102:GLY:HA2	1.76	0.66
2:E:145:LEU:HD21	2:E:147:LYS:HE2	1.77	0.66
1:B:572:THR:OG1	1:C:856:LYS:CE	2.43	0.66
1:C:577:ARG:HH11	1:C:578:ASP:H	1.44	0.66
2:G:93:ALA:HB1	2:G:104(A):SER:HB3	1.77	0.66
1:A:767:LEU:HA	1:A:770:ILE:HD12	1.78	0.66
1:A:1000:ARG:O	1:A:1003:SER:OG	2.13	0.66
1:A:195:LYS:HB3	1:A:202:LYS:HB3	1.78	0.65
2:E:96:LEU:HD12	2:E:104:LEU:HD22	1.78	0.65
2:I:87:THR:HG23	2:I:114:THR:HA	1.78	0.65
1:C:1114:ILE:O	1:C:1119:ASN:ND2	2.29	0.65
3:F:92:GLN:HE22	3:F:99:TRP:HA	1.61	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:126:PHE:HB2	2:I:145:LEU:HB3	1.77	0.65
2:G:59:TYR:HD2	2:G:64:LYS:HD2	1.62	0.65
3:H:37:TYR:HB3	3:H:45:PRO:HB3	1.79	0.65
1:C:37:TYR:HB3	1:C:223:LEU:HD23	1.77	0.65
3:F:170:LYS:NZ	3:F:174:ASN:OD1	2.28	0.65
1:C:577:ARG:NH1	1:C:578:ASP:O	2.30	0.65
1:A:64:TRP:CD2	1:A:66:HIS:ND1	2.65	0.65
1:A:290:ASP:HB3	1:A:293:LEU:HB2	1.79	0.65
1:A:963:VAL:HA	1:A:966:LEU:HD13	1.78	0.65
1:B:611:LEU:HD11	1:B:666:ILE:HG23	1.79	0.65
1:B:889:GLY:HA3	1:B:1034:LEU:HD21	1.79	0.65
1:A:712:ILE:O	1:A:1074:ASN:HA	1.97	0.64
1:B:767:LEU:HA	1:B:770:ILE:HD12	1.79	0.64
1:C:273:ARG:NH2	1:C:290:ASP:OD2	2.30	0.64
1:C:821:LEU:O	1:C:825:LYS:HB2	1.97	0.64
1:A:611:LEU:HD22	1:A:666:ILE:HG22	1.80	0.64
3:J:166:THR:HG1	3:J:179:SER:H	1.44	0.64
1:A:328:ARG:HB2	1:A:543:PHE:HD1	1.62	0.64
1:B:981:PHE:CE2	1:B:993:ILE:HD11	2.33	0.64
1:C:865:LEU:HD12	1:C:873:TYR:HE2	1.62	0.64
2:I:40:PRO:HG2	2:I:43:LYS:HB2	1.78	0.64
1:B:356:LYS:HB3	1:B:397:ALA:HB3	1.79	0.64
1:C:1029:MET:SD	1:C:1053:PRO:HB3	2.37	0.64
3:H:149:THR:HG1	3:H:200:THR:HG1	1.40	0.64
1:C:762:GLN:HG2	1:C:763:LEU:HD12	1.80	0.64
1:A:1126:CYS:HB2	1:A:1132:ILE:HG21	1.80	0.64
1:C:104:TRP:HA	1:C:240:THR:HA	1.79	0.64
1:C:880:GLY:O	1:C:885:GLY:N	2.30	0.64
3:J:6:THR:N	3:J:24:THR:O	2.26	0.64
1:B:95:ILE:HG12	1:B:189:LEU:HB2	1.80	0.64
2:E:89:VAL:HG12	2:E:112:THR:HA	1.80	0.64
2:G:149:TYR:OH	2:G:204:HIS:ND1	2.26	0.64
1:A:576:VAL:HG22	1:A:587:ILE:HD11	1.79	0.64
1:A:1083:HIS:HB3	1:A:1088:HIS:CE1	2.32	0.64
1:A:273:ARG:HH12	1:A:274:THR:HG22	1.62	0.63
1:B:237:ARG:HD3	1:B:239:GLN:HE22	1.62	0.63
1:C:659:SER:OG	1:C:696:THR:O	2.13	0.63
1:C:740:MET:HA	1:C:745:ASP:H	1.63	0.63
1:A:802:PHE:HE1	1:A:927:PHE:HE2	1.47	0.63
1:B:767:LEU:HD23	1:B:770:ILE:HD12	1.79	0.63
1:B:1086:LYS:HE2	1:B:1088:HIS:HE1	1.63	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:326:ILE:HD12	1:A:533:LEU:HD12	1.80	0.63
1:C:54:LEU:HD12	1:C:195:LYS:HG3	1.80	0.63
3:F:7:GLN:HG3	3:F:102:GLY:HA3	1.81	0.63
1:A:600:PRO:HG3	1:A:692:ILE:HD11	1.81	0.63
1:B:981:PHE:CE2	1:B:993:ILE:HD12	2.33	0.63
1:B:1002:GLN:HE21	1:C:1002:GLN:NE2	1.97	0.63
1:C:34:ARG:HH12	1:C:221:SER:HB3	1.62	0.63
2:E:18:LEU:HB3	2:E:82:LEU:HB3	1.81	0.63
2:E:20:LEU:HD13	2:E:80:LEU:HD22	1.81	0.63
1:A:387:LEU:C	1:A:530:SER:HB3	2.16	0.62
1:C:905:ARG:NH2	1:C:1050:MET:HB2	2.14	0.62
1:C:1126:CYS:HB2	1:C:1132:ILE:HD13	1.81	0.62
3:F:150:VAL:HG22	3:F:199:VAL:HG12	1.81	0.62
1:B:338:PHE:HE1	1:B:358:ILE:HG21	1.64	0.62
1:A:656:VAL:HG13	1:A:695:TYR:HB3	1.81	0.62
1:A:931:ILE:HA	1:A:934:ILE:HD12	1.80	0.62
1:B:273:ARG:HH12	1:B:292:ALA:H	1.45	0.62
2:I:33:TYR:O	2:I:95:GLY:N	2.31	0.62
1:B:344:ALA:O	1:B:509:ARG:NH2	2.31	0.62
1:B:877:LEU:HD22	1:B:1029:MET:HE2	1.81	0.62
1:B:1001:LEU:HD12	1:B:1004:LEU:HD11	1.82	0.62
1:C:1080:ALA:HB3	1:C:1129:VAL:HG21	1.82	0.62
2:E:194:GLY:HA2	2:E:217:PRO:HG2	1.82	0.62
1:C:1091:ARG:NH1	1:C:1092:GLU:O	2.32	0.62
3:J:149:THR:OG1	3:J:200:THR:OG1	2.16	0.61
1:A:658:ASN:OD1	1:A:659:SER:N	2.33	0.61
1:B:196:ASN:HD22	1:B:235:ILE:H	1.47	0.61
1:B:294:ASP:O	1:B:297:SER:OG	2.13	0.61
1:B:1040:VAL:HG22	1:C:1031:GLU:HG2	1.82	0.61
1:C:913:GLN:HB2	1:C:917:TYR:CZ	2.35	0.61
2:E:38:ARG:HH12	2:E:48:ILE:HB	1.66	0.61
3:J:112:GLN:NE2	3:J:174:ASN:O	2.26	0.61
1:B:28:TYR:HB3	1:B:61:ASN:HB2	1.82	0.61
2:G:91:TYR:HD1	2:G:110:GLY:HA3	1.64	0.61
2:I:151:PRO:O	2:I:204:HIS:NE2	2.33	0.61
1:B:42:VAL:O	1:B:44:ARG:NH1	2.32	0.61
1:B:954:HIS:O	1:B:957:GLN:HG2	2.00	0.61
2:I:213:LYS:NZ	3:J:127:GLU:OE1	2.29	0.61
1:A:294:ASP:H	1:A:297:SER:HB3	1.65	0.61
1:B:993:ILE:O	1:B:997:ILE:HG12	2.01	0.61
1:C:816:SER:OG	1:C:819:GLU:OE1	2.18	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:126:PHE:O	2:E:145:LEU:N	2.27	0.61
2:I:128:LEU:HB3	3:J:122:PHE:CG	2.34	0.61
1:C:1113:GLN:OE1	1:C:1119:ASN:ND2	2.33	0.61
3:J:35:GLN:O	3:J:92:GLN:N	2.20	0.61
1:A:117:LEU:HG	1:A:130:VAL:HG22	1.82	0.61
1:B:751:ASN:OD1	1:B:752:LEU:N	2.33	0.61
3:H:140:ILE:HG21	3:H:148:VAL:HG21	1.83	0.61
1:C:905:ARG:HD3	1:C:1049:LEU:HD22	1.83	0.61
1:C:715:PRO:HG3	1:C:1069:PRO:HB2	1.82	0.60
1:B:67:VAL:HG12	1:B:67:VAL:O	2.02	0.60
1:B:981:PHE:HZ	1:B:993:ILE:HG21	1.67	0.60
1:A:994:ASP:HA	1:A:997:ILE:HD12	1.83	0.60
1:C:733:LYS:HE3	1:C:774:GLN:NE2	2.16	0.60
1:A:1083:HIS:CE1	1:A:1137:VAL:H	2.19	0.60
1:A:1097:SER:HB2	1:A:1102:TRP:CE2	2.36	0.60
1:B:342:PHE:O	1:B:509:ARG:NH1	2.34	0.60
1:B:726:ILE:HG22	1:B:1061:VAL:HG22	1.82	0.60
3:J:34:VAL:N	3:J:52:ASP:OD1	2.34	0.60
1:B:205:SER:H	1:B:226:LEU:HD23	1.65	0.60
1:B:353:TRP:O	1:B:466:ARG:NE	2.33	0.60
1:C:532:ASN:HA	2:I:28:SER:HB2	1.82	0.60
1:C:715:PRO:HG2	1:C:1109:PHE:HA	1.83	0.60
1:C:96:GLU:OE1	1:C:99:ASN:N	2.34	0.60
1:A:317:ASN:O	1:A:319:ARG:NH1	2.34	0.60
1:C:773:GLU:O	1:C:777:ASN:ND2	2.35	0.60
1:A:1031:GLU:O	1:A:1037:SER:N	2.35	0.60
1:B:1039:ARG:NE	1:C:1031:GLU:OE2	2.28	0.60
1:C:318:PHE:HZ	1:C:615:VAL:HG21	1.67	0.60
1:A:366:SER:OG	2:G:56:SER:OG	2.19	0.59
3:J:160:LYS:HA	3:J:163:VAL:HB	1.83	0.59
1:B:190:ARG:HB2	1:B:192:PHE:CE2	2.37	0.59
1:A:722:VAL:HG11	1:A:934:ILE:HG12	1.84	0.59
3:F:192:HIS:HB2	3:F:195:TYR:HE1	1.66	0.59
1:B:899:ALA:HB1	1:B:917:TYR:CE1	2.37	0.59
1:C:353:TRP:O	1:C:466:ARG:NE	2.34	0.59
1:C:1036:GLN:HE21	1:C:1049:LEU:HD23	1.67	0.59
2:G:18:LEU:HB3	2:G:82:LEU:HB3	1.85	0.59
2:G:20:LEU:HD23	2:G:36:TRP:HZ3	1.67	0.59
2:G:71:LEU:HD12	2:G:78:PHE:HB3	1.84	0.59
1:C:274:THR:OG1	1:C:291:CYS:HB3	2.02	0.59
1:C:1087:ALA:HB2	1:C:1126:CYS:HA	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:23:CYS:HB3	3:J:74:ALA:HB3	1.85	0.59
1:A:365:TYR:HB3	2:G:99:PHE:CE1	2.37	0.59
1:B:932:GLY:O	1:B:935:GLN:HG3	2.03	0.59
1:C:1091:ARG:NH2	1:C:1092:GLU:HB3	2.18	0.59
3:F:123:PRO:HG3	3:F:210:VAL:HB	1.84	0.59
2:I:44:GLY:HA2	3:J:90:TYR:CZ	2.38	0.59
1:A:345:THR:O	1:A:509:ARG:NH2	2.36	0.59
1:B:599:THR:HB	1:B:608:VAL:HG12	1.84	0.59
1:C:708:SER:HB3	1:C:711:SER:HB3	1.85	0.59
1:B:94:SER:HB3	1:B:190:ARG:HE	1.68	0.59
1:B:878:LEU:O	1:B:882:ILE:HG12	2.03	0.59
1:C:294:ASP:O	1:C:297:SER:OG	2.14	0.59
3:J:87:ALA:HB3	3:J:89:TYR:HE1	1.68	0.59
1:A:953:ASN:O	1:A:957:GLN:N	2.19	0.58
1:B:91:TYR:HB2	1:B:270:LEU:HD21	1.83	0.58
2:G:121:LYS:HD3	2:G:148:ASP:HB3	1.83	0.58
1:B:865:LEU:HD12	1:B:873:TYR:CE2	2.36	0.58
1:B:960:ASN:O	1:B:964:LYS:N	2.30	0.58
1:C:867:ASP:OD1	1:C:868:GLU:N	2.36	0.58
1:C:906:PHE:HB3	1:C:911:VAL:HB	1.85	0.58
1:C:731:MET:HG2	1:C:732:THR:N	2.18	0.58
3:J:166:THR:OG1	3:J:179:SER:N	2.28	0.58
1:C:664:ILE:HB	1:C:672:ALA:HB3	1.85	0.58
1:C:1028:LYS:NZ	1:C:1042:PHE:O	2.31	0.58
3:F:15:PRO:HG3	3:F:109:VAL:HB	1.85	0.58
1:A:785:VAL:HG21	1:A:888:PHE:CE2	2.38	0.58
1:A:977:LEU:CB	1:A:981:PHE:CE2	2.55	0.58
1:C:290:ASP:OD2	1:C:293:LEU:N	2.36	0.58
1:C:371:LEU:O	2:I:58:ASN:ND2	2.37	0.58
2:E:38:ARG:HE	2:E:90:TYR:HE1	1.51	0.58
1:B:820:ASP:O	1:B:824:ASN:ND2	2.36	0.58
1:C:726:ILE:HG23	1:C:948:LEU:HG	1.86	0.58
1:C:805:ILE:HG22	1:C:818:ILE:HD11	1.84	0.58
3:F:92:GLN:NE2	3:F:99:TRP:HA	2.18	0.58
1:A:725:GLU:OE1	1:A:1064:HIS:NE2	2.36	0.58
1:A:1055:SER:OG	1:A:1056:ALA:N	2.35	0.58
1:C:96:GLU:HG2	1:C:100:ILE:HG22	1.84	0.58
2:E:40:PRO:HG2	2:E:43:LYS:HB2	1.86	0.58
1:A:128:ILE:HB	1:A:170:TYR:HD2	1.69	0.58
1:A:767:LEU:HD23	1:A:770:ILE:HD12	1.84	0.58
1:B:300:LYS:NZ	1:B:306:PHE:O	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:96:GLU:OE1	1:C:98:SER:N	2.37	0.57
1:C:1104:VAL:HB	1:C:1113:GLN:HE21	1.69	0.57
1:A:336:CYS:HB3	1:A:358:ILE:HD11	1.86	0.57
1:A:937:SER:O	1:A:941:THR:N	2.37	0.57
1:C:726:ILE:CG2	1:C:948:LEU:HG	2.33	0.57
2:E:61:PRO:HA	2:E:64:LYS:HE3	1.86	0.57
2:G:103:THR:HA	3:H:47:THR:HB	1.85	0.57
2:I:36:TRP:CD2	2:I:80:LEU:HD22	2.38	0.57
1:C:767:LEU:HA	1:C:770:ILE:HD12	1.85	0.57
1:B:748:GLU:CD	1:B:981:PHE:CE1	2.67	0.57
1:B:930:ALA:O	1:B:934:ILE:HG12	2.04	0.57
1:B:950:ASP:OD1	1:B:951:VAL:N	2.36	0.57
1:B:1055:SER:OG	1:B:1056:ALA:N	2.36	0.57
1:C:197:ILE:HB	1:C:202:LYS:NZ	2.19	0.57
1:A:740:MET:HA	1:A:744:GLY:HA2	1.85	0.57
3:J:36:TRP:O	3:J:47:THR:HA	2.04	0.57
1:C:661:GLU:O	1:C:695:TYR:OH	2.21	0.57
2:I:36:TRP:HE1	2:I:90:TYR:HB3	1.69	0.57
3:J:185:THR:HG23	3:J:188:GLN:H	1.69	0.57
1:B:118:LEU:HB3	1:B:129:LYS:HB3	1.87	0.57
1:B:815:ARG:NE	1:B:820:ASP:OD1	2.36	0.57
1:C:1005:GLN:O	1:C:1009:THR:HG23	2.05	0.57
3:H:15:PRO:HA	3:H:81:LEU:HD23	1.86	0.57
1:A:575:ALA:HA	1:A:585:LEU:O	2.04	0.57
1:A:656:VAL:HG11	1:A:693:ILE:HD12	1.86	0.57
1:B:424:LYS:HB3	1:B:463:PRO:HG3	1.87	0.57
1:B:870:ILE:HA	1:B:873:TYR:HD2	1.70	0.57
1:C:1028:LYS:HA	1:C:1032:CYS:SG	2.44	0.57
2:I:7:TRP:HA	2:I:111:THR:HG21	1.87	0.57
1:A:599:THR:HG22	1:A:601:GLY:H	1.70	0.57
1:A:822:LEU:HD22	1:A:945:LEU:HD21	1.87	0.57
1:B:748:GLU:OE2	1:B:981:PHE:CE1	2.56	0.57
1:C:961:THR:O	1:C:964:LYS:N	2.37	0.57
2:E:29:PHE:HD1	2:E:34:TRP:NE1	2.03	0.57
1:A:278:LYS:HB2	1:A:306:PHE:CE1	2.40	0.57
1:B:1115:ILE:HA	1:B:1119:ASN:HD21	1.70	0.57
3:F:34:VAL:N	3:F:52:ASP:OD1	2.21	0.57
1:A:190:ARG:HG2	1:A:207:HIS:HD1	1.69	0.56
1:A:1106:GLN:OE1	1:A:1113:GLN:NE2	2.38	0.56
1:B:743:CYS:SG	1:B:746:SER:HB3	2.44	0.56
1:C:825:LYS:NZ	1:C:941:THR:O	2.26	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:47:TRP:CE3	3:F:98:ILE:HD13	2.40	0.56
2:E:48:ILE:HA	2:E:60:ASN:HB2	1.86	0.56
2:E:60:ASN:HA	3:F:98:ILE:HD11	1.85	0.56
2:I:143:GLY:HA2	2:I:158:TRP:CZ2	2.40	0.56
1:A:662:CYS:HB2	1:A:697:MET:HG2	1.86	0.56
1:A:919:ASN:OD1	1:A:922:LEU:HB3	2.05	0.56
1:C:1019:ARG:HH12	1:C:1023:ASN:ND2	2.03	0.56
2:G:48:ILE:HG23	2:G:67:VAL:HG21	1.88	0.56
2:I:52:ASN:ND2	2:I:56:SER:HB2	2.21	0.56
1:B:934:ILE:O	1:B:938:LEU:HG	2.06	0.56
1:C:95:ILE:HD11	1:C:189:LEU:CD1	2.31	0.56
1:B:708:SER:OG	1:B:711:SER:O	2.17	0.56
1:C:801:ASN:HD21	1:C:928:ASN:ND2	2.02	0.56
1:A:977:LEU:CA	1:A:981:PHE:HE2	2.17	0.56
1:B:103:GLY:HA3	1:B:119:ILE:O	2.06	0.56
1:C:931:ILE:HG13	1:C:935:GLN:NE2	2.16	0.56
1:A:34:ARG:NH1	1:A:219:GLY:O	2.35	0.56
1:B:821:LEU:HA	1:B:824:ASN:HD21	1.71	0.56
1:B:938:LEU:HD22	1:B:945:LEU:HD11	1.87	0.56
1:C:1115:ILE:HG23	1:C:1120:THR:HG21	1.87	0.56
2:G:135:THR:OG1	2:G:137:GLY:O	2.23	0.56
1:A:273:ARG:NH1	1:A:274:THR:HG22	2.20	0.56
1:A:858:LEU:HD21	1:A:962:LEU:HD23	1.88	0.56
1:B:87:ASN:ND2	1:B:269:TYR:HB3	2.21	0.56
1:B:858:LEU:HD21	1:B:962:LEU:HD23	1.86	0.56
1:C:771:ALA:O	1:C:774:GLN:HG3	2.06	0.56
1:C:1050:MET:HG2	1:C:1051:SER:H	1.70	0.56
3:J:33:TYR:HB3	3:J:51:GLU:HA	1.88	0.56
1:A:666:ILE:HB	1:A:670:ILE:HG13	1.86	0.56
1:B:957:GLN:O	1:B:961:THR:N	2.35	0.56
1:A:555:SER:HA	1:A:586:ASP:HB2	1.88	0.55
2:G:91:TYR:OH	3:H:44:ALA:N	2.37	0.55
3:H:150:VAL:HG22	3:H:199:VAL:HG12	1.89	0.55
1:B:303:LEU:HD11	1:B:313:TYR:CD1	2.42	0.55
1:B:665:PRO:HA	1:B:671:CYS:HB2	1.87	0.55
1:C:666:ILE:HD11	1:C:672:ALA:HB2	1.88	0.55
2:I:128:LEU:HD11	2:I:145:LEU:HB2	1.87	0.55
2:I:150:PHE:HE2	2:I:179:LEU:HD13	1.70	0.55
2:E:4:LEU:HD21	2:E:34:TRP:HZ3	1.71	0.55
3:F:40:ARG:HG2	3:F:41:PRO:HD2	1.88	0.55
1:C:170:TYR:CZ	1:C:172:SER:HB3	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:200:TYR:HB3	1:C:228:ASP:OD1	2.06	0.55
1:C:534:VAL:HB	1:C:552:LEU:HD12	1.88	0.55
2:E:158:TRP:CZ3	2:E:200:CYS:HB3	2.42	0.55
1:A:125:ASN:HA	1:A:174:PRO:HD3	1.88	0.55
1:A:961:THR:O	1:A:965:GLN:HG3	2.06	0.55
1:C:105:ILE:HG22	1:C:118:LEU:HD23	1.87	0.55
1:C:732:THR:HG22	1:C:1058:HIS:NE2	2.21	0.55
3:F:21:ILE:HB	3:F:76:LEU:HB3	1.87	0.55
1:A:119:ILE:HG12	1:A:128:ILE:HG12	1.88	0.55
1:A:977:LEU:CA	1:A:981:PHE:CE2	2.89	0.55
1:B:722:VAL:HA	1:B:1064:HIS:O	2.07	0.55
1:C:379:CYS:HB2	1:C:384:PRO:HG3	1.88	0.55
1:A:64:TRP:CG	1:A:66:HIS:ND1	2.74	0.55
1:A:913:GLN:OE1	1:A:917:TYR:OH	2.18	0.55
1:A:1040:VAL:HG11	1:B:1034:LEU:HB2	1.89	0.55
2:E:33:TYR:N	2:E:95:GLY:O	2.38	0.55
1:A:766:ALA:O	1:A:770:ILE:HG13	2.06	0.55
2:I:29:PHE:HA	2:I:34:TRP:HZ2	1.72	0.55
2:I:70:SER:N	2:I:79:SER:O	2.31	0.55
1:A:96:GLU:O	1:A:188:ASN:CB	2.55	0.55
1:B:715:PRO:HG3	1:C:894:LEU:HD21	1.89	0.55
2:E:21:THR:HA	2:E:79:SER:HA	1.89	0.55
1:A:741:TYR:HD2	1:A:742:ILE:HG13	1.72	0.55
2:E:37:ILE:HG22	2:E:45:LEU:HD22	1.89	0.55
2:E:127:PRO:HA	2:E:144:CYS:HA	1.89	0.55
1:A:1086:LYS:HD2	1:A:1122:VAL:HG11	1.87	0.54
1:B:969:LYS:HE3	1:B:972:ALA:HB3	1.88	0.54
1:C:95:ILE:CD1	1:C:189:LEU:CD1	2.66	0.54
2:E:143:GLY:HA2	2:E:158:TRP:CH2	2.42	0.54
2:I:39:GLN:HE21	2:I:45:LEU:HD21	1.72	0.54
2:I:47:TRP:HB2	3:J:101:PHE:HE2	1.72	0.54
1:A:195:LYS:HE3	1:A:197:ILE:HG21	1.89	0.54
1:A:777:ASN:ND2	1:A:1022:ALA:HB3	2.19	0.54
1:C:534:VAL:HG13	1:C:537:LYS:HZ3	1.72	0.54
1:C:714:ILE:HD12	1:C:1096:VAL:HG21	1.88	0.54
1:A:865:LEU:HA	1:A:869:MET:HE3	1.89	0.54
1:B:758:SER:O	1:B:761:THR:OG1	2.26	0.54
1:C:85:PRO:HA	1:C:237:ARG:HA	1.89	0.54
1:C:294:ASP:OD1	1:C:297:SER:N	2.37	0.54
1:C:328:ARG:HH22	1:C:532:ASN:N	2.05	0.54
1:B:37:TYR:HB3	1:B:223:LEU:HB3	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:127:VAL:HG22	1:B:171:VAL:HG22	1.88	0.54
1:B:128:ILE:HB	1:B:170:TYR:HB3	1.90	0.54
1:A:42:VAL:C	1:A:44:ARG:HH12	2.10	0.54
1:B:965:GLN:HG2	1:B:1003:SER:OG	2.08	0.54
1:C:296:LEU:HB2	1:C:608:VAL:HB	1.90	0.54
2:I:158:TRP:HB3	2:I:163:LEU:HD23	1.88	0.54
1:A:44:ARG:HE	1:A:279:TYR:HE2	1.56	0.54
1:B:360:ASN:HA	1:B:524:VAL:HG21	1.88	0.54
1:B:1030:SER:HA	1:B:1034:LEU:HD13	1.89	0.54
1:A:317:ASN:HA	1:A:594:GLY:HA2	1.90	0.54
1:A:437:ASN:ND2	1:A:506:GLN:OE1	2.41	0.54
1:B:86:PHE:HB2	1:B:238:PHE:HB3	1.88	0.54
1:C:439:ASN:OD1	1:C:440:LYS:N	2.41	0.54
1:C:725:GLU:OE2	1:C:1064:HIS:NE2	2.39	0.54
3:H:87:ALA:HB3	3:H:89:TYR:HE1	1.72	0.54
1:C:1050:MET:HG2	1:C:1051:SER:N	2.22	0.54
1:C:1091:ARG:HG2	1:C:1119:ASN:O	2.07	0.54
3:J:7:GLN:NE2	3:J:22:SER:O	2.40	0.54
1:A:956:ALA:O	1:A:960:ASN:N	2.27	0.53
1:C:1006:THR:O	1:C:1009:THR:OG1	2.18	0.53
2:I:29:PHE:HA	2:I:34:TRP:CZ2	2.43	0.53
1:B:550:GLY:HA3	1:B:587:ILE:HG23	1.91	0.53
1:B:710:ASN:O	1:B:1077:THR:N	2.32	0.53
1:B:775:ASP:O	1:B:778:THR:OG1	2.26	0.53
1:C:95:ILE:CG1	1:C:189:LEU:HD12	2.21	0.53
2:E:47:TRP:CE3	3:F:98:ILE:HA	2.44	0.53
1:C:290:ASP:O	1:C:297:SER:HB2	2.09	0.53
1:C:762:GLN:O	1:C:765:ARG:HD3	2.09	0.53
1:C:819:GLU:HA	1:C:822:LEU:HB2	1.90	0.53
2:G:34:TRP:N	2:G:51:ILE:O	2.42	0.53
3:J:169:SER:N	3:J:177:ALA:O	2.37	0.53
1:C:95:ILE:HG12	1:C:189:LEU:CB	2.39	0.53
1:C:401:VAL:HG22	1:C:509:ARG:HG2	1.90	0.53
1:C:1046:GLY:HA3	1:C:1066:THR:HG23	1.90	0.53
3:F:152:TRP:CD1	3:F:182:LEU:HD13	2.43	0.53
2:G:91:TYR:CD1	2:G:110:GLY:HA3	2.43	0.53
2:G:131:SER:HB2	3:H:123:PRO:HD2	1.91	0.53
1:A:89:GLY:HA3	1:A:270:LEU:HD12	1.91	0.53
1:B:216:LEU:HD21	1:B:266:TYR:CE2	2.43	0.53
1:C:174:PRO:HB2	1:C:176:LEU:HG	1.89	0.53
1:C:1129:VAL:HB	1:C:1132:ILE:HD12	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:128:LEU:HD22	3:J:122:PHE:HB3	1.90	0.53
3:J:3:PHE:CZ	3:J:25:GLY:HA3	2.43	0.53
1:A:896:ILE:HD11	1:A:904:TYR:HE2	1.74	0.53
1:B:742:ILE:HG12	1:B:1000:ARG:HH21	1.72	0.53
1:B:992:GLN:O	1:B:995:ARG:HG2	2.09	0.53
1:C:1011:GLN:HA	1:C:1014:ARG:NH1	2.23	0.53
3:F:152:TRP:CD1	3:F:163:VAL:HG22	2.43	0.53
1:A:927:PHE:O	1:A:931:ILE:HG13	2.09	0.53
1:A:957:GLN:O	1:A:961:THR:HG23	2.08	0.53
3:J:16:GLY:H	3:J:81:LEU:HB3	1.73	0.53
1:A:205:SER:H	1:A:226:LEU:HD23	1.74	0.53
1:A:919:ASN:CG	1:A:923:ILE:HG13	2.28	0.53
1:B:870:ILE:O	1:B:874:THR:HG23	2.09	0.53
1:C:1079:PRO:HG2	1:C:1129:VAL:HG13	1.91	0.53
1:C:1141:LEU:HD11	1:C:1146:ASP:HB2	1.90	0.53
2:E:47:TRP:HE3	3:F:98:ILE:HA	1.74	0.53
1:A:718:PHE:HE2	1:A:720:ILE:HG13	1.74	0.53
1:B:977:LEU:C	1:B:981:PHE:HD2	2.10	0.53
1:B:1014:ARG:O	1:B:1018:ILE:HG12	2.08	0.53
1:C:96:GLU:OE2	1:C:190:ARG:NH1	2.41	0.53
1:B:748:GLU:HA	1:B:751:ASN:ND2	2.24	0.52
1:C:957:GLN:O	1:C:961:THR:HG23	2.09	0.52
3:H:168:PRO:HG3	3:H:178:ALA:HB2	1.92	0.52
1:A:595:VAL:HA	1:A:611:LEU:O	2.09	0.52
1:A:999:GLY:O	1:A:1002:GLN:HG3	2.09	0.52
1:B:991:VAL:HG22	1:B:995:ARG:HH21	1.73	0.52
1:A:642:VAL:HG13	1:A:651:ILE:HG22	1.92	0.52
1:B:901:GLN:O	1:B:905:ARG:HG2	2.09	0.52
1:B:950:ASP:O	1:B:954:HIS:ND1	2.42	0.52
1:B:976:VAL:HG12	1:B:979:ASP:H	1.73	0.52
1:C:403:ARG:NH2	1:C:406:GLU:OE2	2.41	0.52
1:B:726:ILE:HB	1:B:948:LEU:HG	1.91	0.52
1:C:598:ILE:HB	1:C:609:ALA:HB3	1.90	0.52
1:C:715:PRO:O	1:C:1110:TYR:N	2.42	0.52
2:G:38:ARG:HB2	2:G:48:ILE:HD11	1.92	0.52
2:I:143:GLY:HA2	2:I:158:TRP:HZ2	1.74	0.52
1:A:387:LEU:O	1:A:530:SER:OG	2.28	0.52
1:B:87:ASN:HD21	1:B:269:TYR:HB3	1.75	0.52
1:B:666:ILE:HD11	1:B:672:ALA:HB2	1.91	0.52
1:C:309:GLU:HG2	1:C:310:LYS:H	1.74	0.52
1:C:738:CYS:O	1:C:742:ILE:HG12	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:762:GLN:HA	1:C:765:ARG:CD	2.40	0.52
1:C:816:SER:N	1:C:819:GLU:OE2	2.27	0.52
1:C:886:TRP:O	1:C:1034:LEU:HD12	2.09	0.52
1:C:1091:ARG:HG3	1:C:1092:GLU:H	1.75	0.52
1:A:86:PHE:N	1:A:236:THR:O	2.27	0.52
1:B:298:GLU:OE1	1:B:298:GLU:HA	2.10	0.52
1:B:770:ILE:HG23	1:B:774:GLN:HE22	1.75	0.52
1:C:95:ILE:HG12	1:C:189:LEU:HB2	1.92	0.52
1:C:808:ASP:OD2	1:C:810:SER:OG	2.22	0.52
1:C:947:LYS:HA	1:C:950:ASP:HB2	1.91	0.52
2:G:104:LEU:HD23	3:H:50:TYR:HB3	1.92	0.52
3:J:5:LEU:HA	3:J:25:GLY:HA2	1.92	0.52
1:A:95:ILE:HG23	1:A:210:ILE:HD11	1.92	0.52
1:A:903:ALA:HB2	1:A:916:LEU:HD22	1.90	0.52
1:C:91:TYR:HB2	1:C:270:LEU:HD21	1.90	0.52
1:C:769:GLY:O	1:C:773:GLU:HB2	2.10	0.52
2:E:168:HIS:NE2	3:F:171:GLN:HG2	2.24	0.52
3:J:166:THR:HG21	3:J:179:SER:HB2	1.92	0.52
1:A:640:SER:OG	1:A:641:ASN:N	2.42	0.52
1:A:905:ARG:HD3	1:A:1049:LEU:O	2.10	0.52
1:C:402:ILE:O	1:C:508:TYR:N	2.30	0.52
1:A:247:SER:OG	1:A:248:TYR:N	2.43	0.52
1:A:560:LEU:N	1:A:563:GLN:OE1	2.37	0.52
1:A:807:PRO:HB2	1:A:814:LYS:HG3	1.92	0.52
1:B:198:ASP:OD1	1:B:199:GLY:N	2.40	0.52
1:B:867:ASP:OD1	1:B:867:ASP:N	2.41	0.52
1:B:1048:HIS:NE2	1:B:1050:MET:O	2.42	0.52
1:C:1019:ARG:HH12	1:C:1023:ASN:HD21	1.57	0.52
1:C:204:TYR:HB2	1:C:223:LEU:HD21	1.92	0.52
3:J:170:LYS:HE2	3:J:174:ASN:HA	1.93	0.52
1:B:97:LYS:HZ2	1:B:187:LYS:N	2.08	0.51
1:B:356:LYS:O	1:B:397:ALA:N	2.44	0.51
1:B:906:PHE:CZ	1:B:923:ILE:HD13	2.45	0.51
1:B:1087:ALA:HB2	1:B:1126:CYS:HA	1.92	0.51
1:C:996:LEU:O	1:C:1000:ARG:NE	2.41	0.51
2:E:126:PHE:HZ	3:F:133:LYS:HD2	1.75	0.51
3:J:55:ARG:NE	3:J:61:ASP:HA	2.25	0.51
1:A:329:PHE:HE1	1:A:528:LYS:HA	1.75	0.51
1:C:299:THR:HG21	1:C:597:VAL:HG11	1.92	0.51
2:I:175:GLN:NE2	2:I:181:SER:OG	2.42	0.51
1:A:577:ARG:HH22	1:A:582:LEU:HB3	1.74	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1081:ILE:HB	1:A:1088:HIS:HB2	1.92	0.51
1:B:39:PRO:HD2	1:B:44:ARG:HH12	1.75	0.51
1:C:919:ASN:O	1:C:923:ILE:HG12	2.10	0.51
1:C:998:THR:HA	1:C:1001:LEU:HG	1.91	0.51
1:A:765:ARG:HH21	1:C:957:GLN:NE2	2.05	0.51
1:B:106:PHE:CE1	1:B:238:PHE:HB2	2.46	0.51
1:B:869:MET:HA	1:B:872:GLN:OE1	2.11	0.51
1:C:759:PHE:HA	1:C:762:GLN:CD	2.31	0.51
2:I:18:LEU:HD23	2:I:82:LEU:HB3	1.93	0.51
2:E:148:ASP:HA	2:E:179:LEU:HB3	1.92	0.51
1:B:1074:ASN:OD1	1:C:895:GLN:NE2	2.44	0.51
1:C:555:SER:HB3	1:C:584:ILE:HG13	1.91	0.51
1:C:1077:THR:HG21	1:C:1094:VAL:HG12	1.92	0.51
2:E:128:LEU:HG	3:F:137:VAL:HG21	1.92	0.51
3:H:136:LEU:HD22	3:H:182:LEU:HD23	1.93	0.51
1:A:43:PHE:HE1	1:A:283:GLY:HA3	1.76	0.51
1:A:90:VAL:HG13	1:A:267:VAL:HG23	1.92	0.51
1:B:131:CYS:HA	1:B:166:CYS:HA	1.92	0.51
1:C:201:PHE:CE1	1:C:235:ILE:HD12	2.45	0.51
1:C:722:VAL:HG23	1:C:934:ILE:HD13	1.93	0.51
1:A:552:LEU:HA	1:A:586:ASP:O	2.11	0.51
1:B:822:LEU:HD21	1:B:938:LEU:HD13	1.92	0.51
3:F:62:ARG:NH2	3:F:85:ASP:OD1	2.44	0.51
3:F:90:TYR:HB3	3:F:101:PHE:HD2	1.76	0.51
2:G:6:GLU:OE2	2:G:92:CYS:N	2.40	0.51
3:J:141:SER:HA	3:J:177:ALA:HA	1.92	0.51
1:A:763:LEU:HD21	1:A:1005:GLN:NE2	2.25	0.51
1:B:273:ARG:NH1	1:B:290:ASP:OD1	2.44	0.51
2:G:4:LEU:HD11	2:G:34:TRP:HZ3	1.76	0.51
3:H:7:GLN:OE1	3:H:91:CYS:N	2.44	0.51
2:I:148:ASP:HA	2:I:179:LEU:HD12	1.92	0.51
1:A:789:TYR:HD1	1:C:703:ASN:HB2	1.75	0.50
1:C:357:ARG:HG3	1:C:396:TYR:HE1	1.76	0.50
3:J:21:ILE:HD11	3:J:107:LEU:HB2	1.92	0.50
3:J:128:GLU:HG2	3:J:133:LYS:HB2	1.93	0.50
1:A:926:GLN:O	1:A:929:SER:OG	2.22	0.50
1:C:420:ASP:HA	1:C:424:LYS:HG2	1.93	0.50
1:C:919:ASN:OD1	1:C:922:LEU:HB3	2.11	0.50
2:I:78:PHE:HZ	2:I:92:CYS:HB2	1.76	0.50
1:A:418:ILE:O	1:A:422:ASN:ND2	2.39	0.50
1:A:640:SER:OG	1:A:654:GLU:OE1	2.29	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:867:ASP:OD1	1:A:868:GLU:N	2.44	0.50
1:A:996:LEU:O	1:A:1000:ARG:HG2	2.10	0.50
1:A:1025:ALA:HA	1:A:1028:LYS:HG2	1.94	0.50
1:A:1101:HIS:HB3	1:A:1103:PHE:CE2	2.45	0.50
1:B:351:TYR:HE1	1:B:453:TYR:HA	1.77	0.50
1:C:117:LEU:HD21	1:C:128:ILE:HG23	1.93	0.50
3:F:47:THR:HG21	3:F:50:TYR:CD1	2.47	0.50
1:A:781:VAL:CG1	1:A:1029:MET:HE1	2.32	0.50
1:A:950:ASP:O	1:A:954:HIS:ND1	2.43	0.50
1:C:107:GLY:HA2	1:C:235:ILE:HG12	1.92	0.50
1:C:295:PRO:HB2	1:C:608:VAL:HG21	1.93	0.50
1:C:534:VAL:HG13	1:C:537:LYS:NZ	2.27	0.50
1:C:749:CYS:SG	1:C:977:LEU:HG	2.52	0.50
2:E:126:PHE:N	2:E:145:LEU:O	2.42	0.50
3:H:136:LEU:HB2	3:H:182:LEU:HB3	1.92	0.50
3:J:119:VAL:HG22	3:J:140:ILE:HG22	1.93	0.50
1:B:552:LEU:HD23	1:B:585:LEU:HD13	1.93	0.50
2:I:129:ALA:HB1	2:I:217:PRO:HA	1.94	0.50
2:I:130:PRO:HD3	2:I:142:LEU:HB3	1.92	0.50
1:A:1106:GLN:OE1	1:A:1106:GLN:N	2.44	0.50
1:B:714:ILE:HG21	1:B:1110:TYR:HB2	1.93	0.50
1:C:275:PHE:CD1	1:C:290:ASP:HA	2.46	0.50
1:C:1055:SER:OG	1:C:1056:ALA:N	2.44	0.50
2:E:204:HIS:CD2	2:E:206:PRO:HD2	2.47	0.50
3:J:39:GLN:N	3:J:88:ASP:O	2.36	0.50
1:A:609:ALA:HB1	1:A:653:ALA:HB2	1.93	0.50
1:A:869:MET:HA	1:A:872:GLN:OE1	2.11	0.50
2:I:2:VAL:HG21	2:I:94:ARG:NH1	2.27	0.50
1:A:86:PHE:CZ	1:A:89:GLY:HA2	2.47	0.50
1:A:712:ILE:HA	1:B:895:GLN:HE22	1.77	0.50
1:B:216:LEU:HD21	1:B:266:TYR:HE2	1.76	0.50
1:B:382:VAL:HB	1:B:430:THR:HG23	1.93	0.50
1:C:34:ARG:NH2	1:C:191:GLU:OE1	2.44	0.50
1:C:764:LYS:O	1:C:768:THR:HG23	2.12	0.50
1:C:542:ASN:HA	1:C:546:LEU:O	2.11	0.50
2:E:4:LEU:HD21	2:E:34:TRP:CZ3	2.46	0.50
1:A:1021:SER:O	1:A:1024:LEU:HB3	2.11	0.49
1:B:774:GLN:HA	1:B:777:ASN:OD1	2.12	0.49
1:C:1037:SER:OG	1:C:1043:CYS:SG	2.58	0.49
3:F:34:VAL:HA	3:F:92:GLN:O	2.12	0.49
3:H:29:ILE:HD11	3:H:34:VAL:HG21	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:905:ARG:HD3	1:A:1050:MET:HB3	1.94	0.49
1:A:909:ILE:HG21	1:A:1047:TYR:HB3	1.94	0.49
1:B:116:SER:HB2	1:B:135:PHE:CZ	2.47	0.49
1:B:614:GLY:N	1:B:647:ALA:O	2.28	0.49
1:C:740:MET:HA	1:C:745:ASP:N	2.26	0.49
1:C:1030:SER:O	1:C:1034:LEU:HB2	2.11	0.49
1:A:339:ASP:HA	1:A:369:TYR:HE1	1.76	0.49
1:A:788:ILE:H	1:A:788:ILE:HD12	1.76	0.49
1:B:67:VAL:HG21	1:B:265:TYR:CE2	2.46	0.49
1:B:737:ASP:OD1	1:B:738:CYS:N	2.45	0.49
1:C:658:ASN:ND2	1:C:660:TYR:OH	2.44	0.49
1:B:347:PHE:HE1	1:B:399:SER:HB2	1.76	0.49
1:B:396:TYR:HB2	1:B:514:SER:HB2	1.94	0.49
1:C:100:ILE:HG13	1:C:242:LEU:HD23	1.94	0.49
1:C:759:PHE:HA	1:C:762:GLN:NE2	2.27	0.49
1:C:958:ALA:O	1:C:961:THR:OG1	2.24	0.49
2:I:69:ILE:HD11	2:I:78:PHE:CD2	2.48	0.49
3:J:5:LEU:HD21	3:J:91:CYS:SG	2.53	0.49
1:A:328:ARG:NH1	1:A:532:ASN:H	2.10	0.49
1:B:725:GLU:OE1	1:B:1064:HIS:NE2	2.45	0.49
1:B:762:GLN:HB2	1:B:765:ARG:HH21	1.77	0.49
1:C:54:LEU:HD21	1:C:197:ILE:HD11	1.94	0.49
1:C:327:VAL:C	1:C:328:ARG:HD2	2.32	0.49
1:C:931:ILE:HA	1:C:934:ILE:HG22	1.95	0.49
3:F:132:ASN:HA	3:F:186:PRO:HG3	1.94	0.49
1:B:273:ARG:NH2	1:B:292:ALA:HB3	2.27	0.49
2:E:35:SER:HB3	2:E:47:TRP:CD1	2.48	0.49
3:H:150:VAL:HG21	3:H:180:SER:HB3	1.95	0.49
1:A:567:ARG:HA	1:A:573:THR:HA	1.95	0.49
1:A:897:PRO:HG2	1:A:900:MET:HB2	1.94	0.49
1:A:1093:GLY:HA3	1:A:1105:THR:O	2.12	0.49
1:B:368:LEU:HG	1:B:372:ALA:HB2	1.95	0.49
1:C:141:LEU:HD21	1:C:247:SER:HB2	1.94	0.49
1:C:783:ALA:HB2	1:C:873:TYR:CE1	2.48	0.49
2:G:6:GLU:HB2	2:G:110:GLY:HA2	1.93	0.49
1:A:130:VAL:H	1:A:168:PHE:HD2	1.60	0.49
1:B:103:GLY:O	1:B:241:LEU:N	2.43	0.49
1:B:328:ARG:HB2	1:B:543:PHE:CE2	2.47	0.49
1:C:83:VAL:HG13	1:C:239:GLN:HB2	1.95	0.49
2:G:89:VAL:HG12	2:G:112:THR:HA	1.94	0.49
3:J:150:VAL:HG11	3:J:180:SER:HB2	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:981:PHE:CE1	1:A:993:ILE:HD11	2.43	0.49
1:B:326:ILE:HG22	1:B:532:ASN:HA	1.94	0.49
1:B:1090:PRO:HD3	1:B:1095:PHE:CE2	2.48	0.49
3:J:92:GLN:HA	3:J:100:VAL:O	2.12	0.49
1:A:134:GLN:NE2	1:A:135:PHE:O	2.46	0.49
1:A:563:GLN:HG2	1:B:43:PHE:HB2	1.95	0.49
1:A:667:GLY:O	1:A:670:ILE:HG12	2.13	0.49
1:A:1001:LEU:O	1:A:1004:LEU:N	2.46	0.49
1:B:316:SER:O	1:B:595:VAL:HG22	2.13	0.49
1:B:752:LEU:HD11	1:B:990:GLU:O	2.13	0.49
1:B:769:GLY:O	1:B:772:VAL:HG22	2.12	0.49
1:B:884:SER:OG	1:B:893:ALA:HB1	2.12	0.49
1:C:88:ASP:HB3	1:C:270:LEU:O	2.12	0.49
1:C:906:PHE:O	1:C:911:VAL:N	2.39	0.49
3:F:18:THR:HG23	3:F:79:SER:HA	1.94	0.49
3:F:89:TYR:CE1	3:F:107:LEU:HB3	2.48	0.49
2:G:45:LEU:HB2	3:H:101:PHE:CE2	2.48	0.49
1:A:741:TYR:OH	1:A:1000:ARG:NH2	2.46	0.48
1:A:908:GLY:HA3	1:A:1036:GLN:NE2	2.28	0.48
1:A:1014:ARG:O	1:A:1018:ILE:HD12	2.13	0.48
1:B:664:ILE:O	1:B:671:CYS:HB2	2.13	0.48
1:C:731:MET:HE3	1:C:1014:ARG:HH21	1.78	0.48
2:I:104:LEU:HA	3:J:35:GLN:OE1	2.13	0.48
1:A:216:LEU:HD21	1:A:266:TYR:HE2	1.77	0.48
2:G:51:ILE:HD13	2:G:71:LEU:HB2	1.95	0.48
2:G:169:THR:O	3:H:171:GLN:HG2	2.13	0.48
1:A:118:LEU:HB2	1:A:135:PHE:CZ	2.48	0.48
1:A:498:ARG:HD2	1:A:501:TYR:CZ	2.48	0.48
1:A:1029:MET:HA	1:A:1033:VAL:HG23	1.95	0.48
2:G:63:LEU:O	2:G:67:VAL:N	2.44	0.48
1:B:101:ILE:O	1:B:190:ARG:NH2	2.21	0.48
1:B:349:SER:OG	1:B:452:LEU:O	2.24	0.48
1:B:593:GLY:HA3	1:B:613:GLN:O	2.14	0.48
2:E:30:SER:HA	2:E:53:HIS:ND1	2.29	0.48
2:G:103:THR:HB	3:H:49:ILE:O	2.13	0.48
1:A:723:THR:HG22	1:A:1064:HIS:HB2	1.95	0.48
1:A:958:ALA:O	1:A:961:THR:OG1	2.19	0.48
2:E:173:VAL:HG12	3:F:166:THR:HG23	1.95	0.48
1:B:231:ILE:HG13	1:B:233:ILE:HG12	1.96	0.48
1:B:324:GLU:O	1:B:540:ASN:ND2	2.47	0.48
1:C:67:VAL:HG12	1:C:67:VAL:O	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:577:ARG:NH2	1:C:581:THR:H	2.12	0.48
1:C:733:LYS:HD3	1:C:771:ALA:HB1	1.95	0.48
1:C:762:GLN:O	1:C:765:ARG:NH1	2.47	0.48
1:C:873:TYR:O	1:C:877:LEU:HG	2.14	0.48
1:C:1029:MET:HE3	1:C:1033:VAL:HG21	1.95	0.48
1:C:1036:GLN:NE2	1:C:1049:LEU:HD23	2.28	0.48
3:H:5:LEU:HB3	3:H:91:CYS:SG	2.54	0.48
2:I:163:LEU:HD21	2:I:186:VAL:HG11	1.96	0.48
1:A:771:ALA:O	1:A:774:GLN:HG3	2.13	0.48
1:C:197:ILE:HB	1:C:202:LYS:HZ2	1.78	0.48
2:E:16:GLU:HG3	2:E:17:THR:N	2.28	0.48
2:E:18:LEU:HB2	2:E:82(C):VAL:HG21	1.96	0.48
2:E:23:ALA:HA	2:E:77:GLN:HG3	1.96	0.48
2:G:46:GLU:HG2	2:G:63:LEU:HD11	1.94	0.48
1:A:559:PHE:HB3	1:A:563:GLN:HB2	1.96	0.48
1:A:811:LYS:HD2	1:A:812:PRO:HD2	1.96	0.48
1:A:1047:TYR:HD2	1:A:1067:TYR:HD2	1.62	0.48
1:A:1069:PRO:HG2	1:B:894:LEU:HD11	1.96	0.48
1:B:559:PHE:HE2	1:B:584:ILE:HG13	1.78	0.48
1:C:577:ARG:HH22	1:C:581:THR:H	1.62	0.48
1:C:819:GLU:HA	1:C:822:LEU:HD12	1.96	0.48
1:A:884:SER:CB	1:A:893:ALA:HB1	2.44	0.48
1:C:67:VAL:HB	1:C:263:ALA:HB3	1.96	0.48
1:C:902:MET:HA	1:C:905:ARG:HG2	1.96	0.48
1:A:732:THR:HG22	1:A:1058:HIS:NE2	2.29	0.47
1:A:762:GLN:HB3	1:A:765:ARG:NH1	2.23	0.47
1:B:40:ASP:OD1	1:B:40:ASP:N	2.46	0.47
1:C:275:PHE:HD1	1:C:290:ASP:HA	1.78	0.47
2:G:173:VAL:HB	2:G:181:SER:HB3	1.96	0.47
1:A:110:LEU:O	1:A:134:GLN:HA	2.13	0.47
1:C:370:ASN:O	1:C:373:PRO:HD3	2.13	0.47
1:C:1009:THR:O	1:C:1013:ILE:HG13	2.14	0.47
2:I:126:PHE:CE1	3:J:128:GLU:HB3	2.48	0.47
2:I:154:VAL:HB	2:I:182:LEU:HD22	1.95	0.47
1:B:563:GLN:HE22	1:C:43:PHE:HD1	1.62	0.47
1:C:109:THR:O	1:C:116:SER:OG	2.30	0.47
1:C:535:LYS:H	1:C:537:LYS:NZ	2.11	0.47
1:C:779:GLN:OE1	1:C:783:ALA:HB3	2.13	0.47
2:G:154:VAL:HB	2:G:182:LEU:HD22	1.96	0.47
3:H:140:ILE:O	3:H:178:ALA:N	2.38	0.47
3:J:36:TRP:CD1	3:J:49:ILE:HB	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:501:TYR:HB3	1:A:505:HIS:ND1	2.29	0.47
1:C:328:ARG:HG3	1:C:527:PRO:HB3	1.96	0.47
3:H:36:TRP:CG	3:H:76:LEU:HB2	2.50	0.47
1:A:128:ILE:O	1:A:170:TYR:HB3	2.14	0.47
1:A:804:GLN:O	1:A:816:SER:HB2	2.15	0.47
1:A:1024:LEU:O	1:A:1028:LYS:HG2	2.13	0.47
1:C:577:ARG:HE	1:C:583:GLU:N	2.13	0.47
3:F:90:TYR:HB3	3:F:101:PHE:CD2	2.49	0.47
1:A:269:TYR:HB2	1:A:271:GLN:HE22	1.79	0.47
1:B:83:VAL:HG22	1:B:239:GLN:HE21	1.78	0.47
1:B:969:LYS:HZ2	1:B:996:LEU:HD21	1.79	0.47
1:A:896:ILE:HG23	1:A:901:GLN:NE2	2.28	0.47
1:A:896:ILE:HG13	1:A:897:PRO:HD2	1.97	0.47
1:B:293:LEU:HD12	1:B:294:ASP:HB2	1.96	0.47
1:B:316:SER:C	1:B:595:VAL:HG22	2.35	0.47
1:B:426:PRO:HG3	1:B:464:PHE:CZ	2.50	0.47
1:B:611:LEU:HD22	1:B:613:GLN:HG3	1.97	0.47
1:C:42:VAL:HG23	1:C:44:ARG:HD2	1.96	0.47
1:C:743:CYS:SG	1:C:746:SER:HB2	2.55	0.47
1:C:1037:SER:HB2	1:C:1039:ARG:HG2	1.95	0.47
3:F:124:PRO:HG3	3:F:135:THR:H	1.79	0.47
2:G:91:TYR:CE2	3:H:44:ALA:HB3	2.50	0.47
1:A:276:LEU:HD22	1:A:301:CYS:HA	1.95	0.47
1:A:598:ILE:CD1	1:A:666:ILE:HG12	2.45	0.47
1:A:769:GLY:HA2	1:A:772:VAL:HG12	1.96	0.47
1:B:54:LEU:HD21	1:B:88:ASP:HB2	1.96	0.47
1:B:800:PHE:HB3	1:B:802:PHE:CZ	2.50	0.47
1:B:954:HIS:HA	1:B:957:GLN:NE2	2.29	0.47
1:B:956:ALA:O	1:B:960:ASN:N	2.33	0.47
1:C:34:ARG:NH1	1:C:221:SER:HB3	2.28	0.47
1:C:48:LEU:HD12	1:C:276:LEU:HD11	1.97	0.47
1:C:365:TYR:HA	2:I:99:PHE:HE1	1.80	0.47
1:C:374:PHE:CE2	1:C:434:ILE:HG23	2.50	0.47
2:E:48:ILE:HD12	2:E:63:LEU:HD22	1.96	0.47
3:F:140:ILE:HB	3:F:178:ALA:HB3	1.95	0.47
1:A:763:LEU:HD13	1:A:1008:VAL:HG11	1.97	0.47
1:B:716:THR:HB	1:B:1071:GLN:HB3	1.96	0.47
1:B:916:LEU:O	1:B:920:GLN:N	2.48	0.47
1:C:239:GLN:HE21	1:C:240:THR:H	1.61	0.47
3:H:143:PHE:CE2	3:H:146:GLY:HA2	2.49	0.47
2:I:142:LEU:HD13	2:I:215:VAL:HB	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:145:LEU:HD12	2:I:182:LEU:O	2.14	0.47
1:A:204:TYR:HB3	1:A:223:LEU:HG	1.95	0.47
1:A:296:LEU:N	1:A:608:VAL:HG11	2.30	0.47
1:A:650:LEU:HG	1:A:653:ALA:HB3	1.96	0.47
1:B:196:ASN:ND2	1:B:235:ILE:H	2.11	0.47
1:B:818:ILE:O	1:B:822:LEU:HG	2.14	0.47
1:C:202:LYS:HG2	1:C:228:ASP:CG	2.35	0.47
3:F:152:TRP:CE2	3:F:182:LEU:HB2	2.50	0.47
1:A:801:ASN:O	1:A:931:ILE:HD13	2.15	0.46
1:B:127:VAL:HA	1:B:170:TYR:O	2.15	0.46
1:B:442:ASP:OD1	1:B:509:ARG:NH2	2.47	0.46
1:B:576:VAL:O	1:B:585:LEU:HG	2.13	0.46
1:B:741:TYR:HE1	1:B:1000:ARG:HG3	1.80	0.46
1:B:780:GLU:O	1:B:784:GLN:NE2	2.48	0.46
1:C:731:MET:HE3	1:C:1014:ARG:NH2	2.30	0.46
2:G:94:ARG:HG2	2:G:95:GLY:H	1.80	0.46
3:J:23:CYS:N	3:J:74:ALA:O	2.48	0.46
3:J:142:ASP:OD1	3:J:171:GLN:NE2	2.43	0.46
1:A:202:LYS:NZ	1:A:204:TYR:OH	2.39	0.46
1:A:439:ASN:HA	1:A:507:PRO:HG2	1.97	0.46
1:A:727:LEU:HD11	1:A:1028:LYS:HG3	1.98	0.46
1:A:877:LEU:HA	1:A:888:PHE:CZ	2.50	0.46
1:A:968:SER:HB2	1:A:970:PHE:CE2	2.50	0.46
1:B:374:PHE:CD2	2:E:99:PHE:HB3	2.50	0.46
1:B:1006:THR:HG22	1:B:1010:GLN:NE2	2.25	0.46
1:C:805:ILE:HA	1:C:818:ILE:HD11	1.97	0.46
1:C:818:ILE:O	1:C:822:LEU:HG	2.15	0.46
3:F:192:HIS:HB2	3:F:195:TYR:CE1	2.48	0.46
1:A:882:ILE:O	1:A:898:PHE:HD2	1.99	0.46
1:B:374:PHE:CG	2:E:99:PHE:HB3	2.50	0.46
1:B:1060:VAL:HG21	1:B:1062:PHE:HE1	1.80	0.46
2:E:172:ALA:O	3:F:166:THR:HG21	2.16	0.46
3:F:29:ILE:H	3:F:72:ASN:CG	2.18	0.46
1:A:578:ASP:HB3	1:A:583:GLU:H	1.80	0.46
1:A:660:TYR:O	1:A:698:SER:HB3	2.15	0.46
1:A:1032:CYS:HB3	1:A:1051:SER:HB3	1.97	0.46
1:B:31:SER:O	1:B:59:PHE:HA	2.15	0.46
1:B:373:PRO:HG2	1:B:436:TRP:HB2	1.97	0.46
1:C:58:PHE:HB2	1:C:293:LEU:HD22	1.97	0.46
1:C:88:ASP:OD2	1:C:272:PRO:HD3	2.15	0.46
1:C:382:VAL:HG11	1:C:515:PHE:HE2	1.79	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:560:LEU:HB3	1:C:562:PHE:CE2	2.51	0.46
1:C:909:ILE:HG23	1:C:1036:GLN:CD	2.35	0.46
2:G:94:ARG:O	2:G:104(A):SER:OG	2.16	0.46
1:A:88:ASP:O	1:A:270:LEU:HB2	2.15	0.46
1:A:578:ASP:OD2	1:A:581:THR:HG22	2.16	0.46
1:A:643:PHE:HB2	1:A:655:TYR:HB2	1.97	0.46
1:B:67:VAL:HG23	1:B:265:TYR:CD2	2.51	0.46
1:C:102:ARG:HD2	1:C:243:ALA:HB3	1.98	0.46
1:C:937:SER:O	1:C:941:THR:N	2.39	0.46
2:G:68:THR:HB	2:G:81:LYS:HB2	1.97	0.46
1:A:93:ALA:O	1:A:265:TYR:HA	2.16	0.46
1:A:765:ARG:NH2	1:C:957:GLN:HE22	2.07	0.46
1:A:1030:SER:OG	1:C:1040:VAL:O	2.28	0.46
1:B:67:VAL:O	1:B:67:VAL:CG1	2.63	0.46
1:B:779:GLN:OE1	1:B:783:ALA:HB3	2.16	0.46
1:C:777:ASN:HB3	1:C:1022:ALA:HB1	1.98	0.46
1:C:920:GLN:HG2	1:C:921:LYS:N	2.31	0.46
3:F:200:THR:O	3:F:200:THR:OG1	2.33	0.46
1:A:788:ILE:N	1:C:701:ALA:O	2.49	0.46
1:A:1114:ILE:HG22	1:A:1116:THR:HG23	1.96	0.46
1:C:867:ASP:OD1	1:C:868:GLU:HG2	2.15	0.46
3:F:128:GLU:HG2	3:F:133:LYS:O	2.15	0.46
3:J:136:LEU:HD11	3:J:189:TRP:CZ3	2.51	0.46
1:A:204:TYR:CD1	1:A:225:PRO:HA	2.50	0.46
1:A:391:CYS:SG	1:A:529:LYS:CB	3.04	0.46
1:A:865:LEU:HD23	1:A:873:TYR:CE2	2.49	0.46
1:A:958:ALA:HB1	1:A:1007:TYR:HE1	1.80	0.46
1:B:784:GLN:N	1:B:784:GLN:OE1	2.49	0.46
1:B:906:PHE:CE2	1:B:916:LEU:HD13	2.51	0.46
1:C:656:VAL:HG22	1:C:695:TYR:HB3	1.97	0.46
2:E:47:TRP:HB2	3:F:99:TRP:HB2	1.98	0.46
2:E:188:VAL:HG11	2:E:198:TYR:CE1	2.51	0.46
3:F:119:VAL:HG13	3:F:140:ILE:HG13	1.97	0.46
1:C:390:LEU:HD13	1:C:392:PHE:HE2	1.81	0.46
3:F:143:PHE:CE2	3:F:146:GLY:HA2	2.51	0.46
1:A:50:SER:HB3	1:A:276:LEU:HD13	1.98	0.46
1:A:726:ILE:CG2	1:A:948:LEU:HB2	2.46	0.46
1:B:104:TRP:HA	1:B:240:THR:HA	1.97	0.46
1:C:658:ASN:OD1	1:C:659:SER:N	2.49	0.46
2:E:59:TYR:HE1	2:E:69:ILE:HG22	1.81	0.46
3:J:99:TRP:HE3	3:J:101:PHE:HZ	1.63	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:576:VAL:HG23	1:A:585:LEU:HD13	1.97	0.45
1:C:387:LEU:HA	1:C:390:LEU:HB2	1.97	0.45
2:E:201:ASN:ND2	2:E:212:ASP:OD1	2.42	0.45
1:A:880:GLY:HA3	1:A:888:PHE:CD1	2.52	0.45
1:A:1043:CYS:HB3	1:A:1048:HIS:CD2	2.51	0.45
1:B:363:ALA:HB1	1:B:365:TYR:CZ	2.50	0.45
1:B:576:VAL:HB	1:B:585:LEU:HD11	1.97	0.45
2:E:38:ARG:O	2:E:45:LEU:HA	2.17	0.45
1:B:699:LEU:HD11	1:C:869:MET:HE3	1.97	0.45
1:B:732:THR:O	1:B:734:THR:N	2.50	0.45
1:C:398:ASP:O	1:C:511:VAL:HA	2.16	0.45
1:C:676:THR:H	1:C:690:GLN:HA	1.80	0.45
1:C:1014:ARG:O	1:C:1018:ILE:HD12	2.16	0.45
2:G:23:ALA:HA	2:G:77:GLN:HG2	1.97	0.45
1:A:374:PHE:CE2	2:G:99:PHE:HB2	2.51	0.45
1:B:997:ILE:HA	1:B:1000:ARG:NE	2.31	0.45
1:C:660:TYR:O	1:C:698:SER:OG	2.32	0.45
2:I:39:GLN:HB2	2:I:91:TYR:HE2	1.81	0.45
1:A:52:GLN:HA	1:A:274:THR:HA	1.98	0.45
1:A:386:LYS:HB3	1:A:390:LEU:HD12	1.99	0.45
1:A:903:ALA:HB1	1:A:913:GLN:HG2	1.98	0.45
1:B:202:LYS:HG2	1:B:228:ASP:OD1	2.17	0.45
1:B:807:PRO:HA	1:B:816:SER:HA	1.97	0.45
1:C:378:LYS:HG3	3:J:33:TYR:CE2	2.51	0.45
2:E:53:HIS:HA	2:E:71:LEU:HD22	1.97	0.45
2:E:149:TYR:HB2	2:E:204:HIS:CE1	2.51	0.45
1:A:645:THR:HG23	1:A:647:ALA:H	1.81	0.45
1:A:1019:ARG:O	1:A:1023:ASN:ND2	2.49	0.45
1:B:969:LYS:NZ	1:B:996:LEU:HD21	2.30	0.45
1:C:316:SER:O	1:C:595:VAL:HG22	2.17	0.45
1:C:498:ARG:HD2	1:C:501:TYR:CZ	2.50	0.45
1:C:728:PRO:HB3	1:C:951:VAL:HG21	1.98	0.45
1:C:797:PHE:HB2	1:C:800:PHE:O	2.16	0.45
1:C:1106:GLN:HG3	1:C:1109:PHE:O	2.17	0.45
2:E:36:TRP:HD1	2:E:69:ILE:HD12	1.81	0.45
2:I:69:ILE:HD11	2:I:78:PHE:HD2	1.82	0.45
1:A:704:SER:HA	1:B:790:LYS:O	2.16	0.45
1:A:873:TYR:O	1:A:877:LEU:HG	2.17	0.45
1:A:1020:ALA:HA	1:A:1023:ASN:HD22	1.81	0.45
1:B:201:PHE:HD2	1:B:203:ILE:HD11	1.80	0.45
1:B:887:THR:HG21	1:B:894:LEU:HD13	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1004:LEU:HD12	1:B:1005:GLN:N	2.32	0.45
2:G:59:TYR:CD2	2:G:64:LYS:HD2	2.47	0.45
1:A:759:PHE:O	1:A:763:LEU:HD23	2.16	0.45
1:B:658:ASN:ND2	1:B:660:TYR:OH	2.50	0.45
1:C:641:ASN:HB3	1:C:654:GLU:OE2	2.16	0.45
1:C:717:ASN:OD1	1:C:718:PHE:N	2.46	0.45
1:C:50:SER:HA	1:C:275:PHE:O	2.17	0.45
1:C:779:GLN:NE2	1:C:783:ALA:HB3	2.32	0.45
3:H:149:THR:OG1	3:H:200:THR:OG1	2.14	0.45
1:A:916:LEU:HD12	1:A:920:GLN:HA	1.99	0.45
1:A:1041:ASP:HB3	1:B:1030:SER:HB3	1.98	0.45
1:B:1115:ILE:HG23	1:B:1120:THR:HG21	1.98	0.45
1:C:318:PHE:CE1	1:C:612:TYR:HB3	2.52	0.45
1:C:802:PHE:HZ	1:C:898:PHE:CE1	2.34	0.45
1:C:953:ASN:O	1:C:957:GLN:HG3	2.17	0.45
2:E:37:ILE:O	2:E:91:TYR:N	2.27	0.45
2:I:125:VAL:HA	2:I:145:LEU:O	2.17	0.45
3:J:38:GLN:HE22	3:J:40:ARG:NH2	2.15	0.45
1:A:577:ARG:HH12	1:A:582:LEU:C	2.19	0.44
1:A:789:TYR:CZ	1:A:893:ALA:HB2	2.52	0.44
1:A:906:PHE:HB3	1:A:911:VAL:HB	1.98	0.44
1:A:950:ASP:C	1:A:954:HIS:HD1	2.20	0.44
1:B:67:VAL:HG22	1:B:265:TYR:CE2	2.32	0.44
1:B:732:THR:HG22	1:B:1058:HIS:NE2	2.32	0.44
1:C:534:VAL:O	1:C:552:LEU:HB2	2.17	0.44
1:C:544:ASN:ND2	1:C:578:ASP:OD1	2.50	0.44
1:C:1081:ILE:O	1:C:1088:HIS:HD2	2.00	0.44
2:E:29:PHE:HB2	2:E:53:HIS:HB3	1.98	0.44
2:G:24:VAL:HG22	2:G:76:ASN:O	2.18	0.44
2:G:149:TYR:OH	2:G:207:SER:OG	2.20	0.44
1:A:787:GLN:OE1	1:A:787:GLN:N	2.50	0.44
1:A:896:ILE:O	1:A:901:GLN:NE2	2.45	0.44
1:A:1029:MET:O	1:A:1034:LEU:HG	2.17	0.44
1:C:89:GLY:HA3	1:C:270:LEU:HB2	1.98	0.44
1:C:969:LYS:HZ1	1:C:972:ALA:HB3	1.82	0.44
1:C:1019:ARG:HG3	1:C:1019:ARG:HH11	1.82	0.44
2:I:12:LEU:HD23	2:I:82(C):VAL:HG21	2.00	0.44
2:I:36:TRP:CG	2:I:80:LEU:HD22	2.52	0.44
3:J:8:PRO:O	3:J:105:THR:HG22	2.16	0.44
1:A:616:ASN:HA	1:A:644:GLN:NE2	2.32	0.44
1:A:743:CYS:HB3	1:A:746:SER:HB3	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:906:PHE:HD1	1:A:1049:LEU:HD21	1.82	0.44
1:A:917:TYR:CE2	1:C:1090:PRO:HD2	2.52	0.44
1:B:797:PHE:HE2	1:B:883:THR:HG1	1.62	0.44
1:C:341:VAL:HG11	1:C:397:ALA:HB3	1.99	0.44
2:E:123:PRO:HB3	2:E:146:VAL:HG13	2.00	0.44
3:J:3:PHE:CE1	3:J:25:GLY:HA3	2.52	0.44
1:A:658:ASN:HB3	1:A:660:TYR:CE2	2.52	0.44
1:A:768:THR:O	1:A:772:VAL:HG12	2.17	0.44
1:A:977:LEU:C	1:A:981:PHE:CE2	2.91	0.44
1:B:882:ILE:HG13	1:B:883:THR:H	1.81	0.44
1:C:170:TYR:OH	1:C:172:SER:HB3	2.17	0.44
1:A:45:SER:O	1:A:47:VAL:HG23	2.18	0.44
1:A:555:SER:OG	1:A:584:ILE:HG23	2.18	0.44
1:B:539:VAL:HG12	1:B:540:ASN:N	2.33	0.44
1:B:769:GLY:O	1:B:773:GLU:OE1	2.35	0.44
1:C:439:ASN:OD1	1:C:440:LYS:HG3	2.17	0.44
2:E:18:LEU:HD23	2:E:82:LEU:HD23	2.00	0.44
2:G:39:GLN:HG3	2:G:44:GLY:C	2.37	0.44
2:I:66:ARG:HE	2:I:82:LEU:HD11	1.83	0.44
1:A:193:VAL:HB	1:A:204:TYR:HB2	1.99	0.44
1:B:291:CYS:O	1:B:297:SER:OG	2.36	0.44
1:B:551:VAL:HG12	1:B:588:THR:O	2.18	0.44
1:B:906:PHE:O	1:B:911:VAL:N	2.32	0.44
1:C:103:GLY:HA3	1:C:119:ILE:O	2.18	0.44
3:F:117:PRO:HB3	3:F:143:PHE:HB3	1.99	0.44
2:G:150:PHE:HB2	2:G:179:LEU:HD22	1.99	0.44
3:H:13:GLU:OE2	3:H:14:SER:N	2.51	0.44
2:I:109:GLN:OE1	2:I:109:GLN:N	2.42	0.44
2:I:154:VAL:HG22	2:I:204:HIS:CG	2.53	0.44
3:J:34:VAL:O	3:J:50:TYR:HA	2.17	0.44
3:J:36:TRP:CE2	3:J:76:LEU:HB2	2.52	0.44
1:A:916:LEU:O	1:A:920:GLN:N	2.50	0.44
1:A:968:SER:HB3	1:B:759:PHE:HZ	1.82	0.44
1:B:38:TYR:CE1	1:B:285:ILE:HG13	2.52	0.44
1:B:759:PHE:O	1:B:763:LEU:HD23	2.18	0.44
1:C:874:THR:O	1:C:878:LEU:HD23	2.18	0.44
2:E:127:PRO:HG3	2:E:213:LYS:HB3	1.99	0.44
1:A:410:ILE:HD11	1:A:418:ILE:HG22	1.99	0.44
1:A:915:VAL:O	1:A:919:ASN:HB3	2.18	0.44
1:B:882:ILE:HG13	1:B:883:THR:N	2.32	0.44
1:B:1029:MET:SD	1:B:1033:VAL:HG21	2.58	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1097:SER:HB2	1:B:1102:TRP:CE2	2.53	0.44
1:C:550:GLY:HA2	1:C:590:CYS:H	1.83	0.44
1:C:963:VAL:O	1:C:966:LEU:HB2	2.17	0.44
1:C:972:ALA:HB3	1:C:996:LEU:HD21	1.99	0.44
3:F:5:LEU:HD13	3:F:91:CYS:SG	2.58	0.44
1:A:811:LYS:HG3	1:A:813:SER:H	1.83	0.44
1:A:884:SER:OG	1:A:893:ALA:HB1	2.17	0.44
1:B:963:VAL:O	1:B:966:LEU:HB2	2.18	0.44
1:B:986:PRO:HA	1:B:989:ALA:HB3	2.00	0.44
1:C:131:CYS:HA	1:C:166:CYS:HA	1.99	0.44
1:C:1083:HIS:HB3	1:C:1088:HIS:NE2	2.33	0.44
1:A:64:TRP:CE2	1:A:66:HIS:CG	3.06	0.43
1:A:770:ILE:HD11	1:A:1012:LEU:HD22	2.00	0.43
1:B:45:SER:O	1:B:47:VAL:HG23	2.18	0.43
1:B:1115:ILE:HG22	1:B:1137:VAL:HG13	2.00	0.43
1:C:906:PHE:HB3	1:C:911:VAL:O	2.18	0.43
1:C:1028:LYS:HB2	1:C:1062:PHE:CE2	2.53	0.43
2:I:139:THR:OG1	2:I:187:THR:OG1	2.36	0.43
1:A:117:LEU:HB2	1:A:233:ILE:HD11	2.01	0.43
1:A:866:THR:H	1:A:869:MET:CE	2.31	0.43
1:A:997:ILE:O	1:A:1001:LEU:HG	2.18	0.43
1:B:193:VAL:HB	1:B:204:TYR:HB2	2.00	0.43
1:C:116:SER:O	1:C:130:VAL:HG23	2.18	0.43
3:F:50:TYR:N	3:F:54:GLN:O	2.50	0.43
2:G:38:ARG:NH1	2:G:40:PRO:HD3	2.33	0.43
2:G:126:PHE:HB2	2:G:145:LEU:HD21	1.99	0.43
2:I:174:LEU:HA	2:I:179:LEU:O	2.18	0.43
3:J:65:GLY:HA2	3:J:75:SER:O	2.17	0.43
1:A:882:ILE:HG23	1:A:898:PHE:CD2	2.54	0.43
1:B:902:MET:HB2	1:B:916:LEU:HD21	2.01	0.43
1:B:1006:THR:O	1:B:1009:THR:OG1	2.29	0.43
1:C:375:PHE:HZ	1:C:407:VAL:HG11	1.83	0.43
1:C:993:ILE:O	1:C:997:ILE:HG12	2.18	0.43
2:E:98:ILE:HG12	2:E:99:PHE:CG	2.53	0.43
3:F:95:ASP:HB3	3:F:98:ILE:HB	2.00	0.43
2:I:36:TRP:NE1	2:I:90:TYR:HB3	2.32	0.43
1:A:316:SER:O	1:A:595:VAL:HG12	2.19	0.43
1:B:725:GLU:O	1:B:1061:VAL:HA	2.18	0.43
1:C:371:LEU:C	2:I:58:ASN:HD21	2.22	0.43
1:C:977:LEU:HD12	1:C:981:PHE:CE2	2.54	0.43
1:C:1104:VAL:HB	1:C:1113:GLN:HG3	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:143:GLY:HA2	2:E:158:TRP:HH2	1.82	0.43
1:A:131:CYS:HB2	1:A:166:CYS:HB2	1.63	0.43
1:B:273:ARG:HH22	1:B:292:ALA:HB3	1.84	0.43
1:C:552:LEU:HD13	1:C:585:LEU:HD21	2.00	0.43
1:C:737:ASP:OD2	1:C:740:MET:HG2	2.18	0.43
1:C:902:MET:SD	1:C:905:ARG:HD2	2.58	0.43
1:C:986:PRO:HB2	1:C:987:PRO:HD3	2.00	0.43
3:F:7:GLN:HE22	3:F:90:TYR:HA	1.84	0.43
3:F:175:LYS:HA	3:F:175:LYS:HD3	1.76	0.43
3:H:78:ILE:HD11	3:H:89:TYR:HE2	1.83	0.43
1:A:905:ARG:NH1	1:A:1050:MET:HA	2.34	0.43
1:B:947:LYS:HA	1:B:950:ASP:OD2	2.18	0.43
1:C:375:PHE:HA	3:J:96:SER:HA	1.99	0.43
1:C:879:ALA:O	1:C:883:THR:HG22	2.18	0.43
1:C:1139:ASP:OD1	1:C:1139:ASP:N	2.49	0.43
3:H:37:TYR:HB2	3:H:90:TYR:H	1.84	0.43
1:A:660:TYR:HB2	1:A:695:TYR:CZ	2.54	0.43
1:A:726:ILE:HG21	1:A:948:LEU:HB2	2.00	0.43
1:B:54:LEU:HD22	1:B:197:ILE:HG22	2.00	0.43
1:B:577:ARG:HA	1:B:583:GLU:O	2.18	0.43
1:B:730:SER:OG	1:B:731:MET:N	2.51	0.43
1:C:733:LYS:HG3	1:C:861:LEU:HB2	1.99	0.43
2:G:33:TYR:CD1	2:G:52:ASN:HB3	2.54	0.43
1:A:963:VAL:O	1:A:966:LEU:HB2	2.18	0.43
1:A:965:GLN:HB3	1:A:970:PHE:CZ	2.54	0.43
1:A:1047:TYR:HD2	1:A:1067:TYR:CD2	2.36	0.43
1:B:664:ILE:HG23	1:B:672:ALA:HB3	2.01	0.43
1:B:973:ILE:HD13	1:B:983:ARG:HH22	1.84	0.43
1:C:931:ILE:O	1:C:934:ILE:HG22	2.18	0.43
2:I:18:LEU:O	2:I:81:LYS:HD3	2.19	0.43
2:I:37:ILE:HG21	2:I:107:TRP:HH2	1.84	0.43
3:J:7:GLN:HG2	3:J:23:CYS:HA	2.01	0.43
3:J:67:ILE:HG12	3:J:74:ALA:HA	2.01	0.43
1:A:118:LEU:HD21	1:A:120:VAL:HG13	2.01	0.43
1:A:355:ARG:HA	1:A:397:ALA:O	2.18	0.43
1:A:818:ILE:O	1:A:822:LEU:HG	2.19	0.43
1:A:958:ALA:HB1	1:A:1007:TYR:CE1	2.54	0.43
1:A:977:LEU:O	1:A:981:PHE:CE2	2.60	0.43
1:A:1029:MET:O	1:A:1034:LEU:N	2.30	0.43
1:B:956:ALA:O	1:B:959:LEU:HB2	2.19	0.43
1:C:65:PHE:HB2	1:C:265:TYR:CE1	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:785:VAL:HG21	1:C:789:TYR:HE1	1.83	0.43
1:C:886:TRP:HD1	1:C:1034:LEU:O	2.02	0.43
2:G:35:SER:OG	2:G:102:VAL:HG21	2.19	0.43
2:I:47:TRP:HB2	3:J:101:PHE:CE2	2.52	0.43
3:J:36:TRP:N	3:J:49:ILE:O	2.46	0.43
3:J:49:ILE:HG21	3:J:65:GLY:HA3	2.00	0.43
1:A:92:PHE:HZ	1:A:101:ILE:HD13	1.82	0.43
1:A:785:VAL:HG21	1:A:888:PHE:CD2	2.54	0.43
1:B:289:VAL:HG23	1:B:306:PHE:CE2	2.53	0.43
1:B:577:ARG:HE	1:B:582:LEU:C	2.22	0.43
1:C:290:ASP:HB3	1:C:293:LEU:HB2	2.01	0.43
1:C:344:ALA:HB3	1:C:347:PHE:HE1	1.84	0.43
2:G:39:GLN:NE2	2:G:43:LYS:O	2.52	0.43
2:I:177:SER:OG	2:I:179:LEU:HD23	2.19	0.43
1:A:517:LEU:HD23	1:A:517:LEU:HA	1.92	0.42
1:B:274:THR:HG23	1:B:291:CYS:SG	2.59	0.42
1:B:296:LEU:O	1:B:299:THR:OG1	2.25	0.42
1:B:1029:MET:O	1:B:1033:VAL:HB	2.19	0.42
1:C:818:ILE:HG21	1:C:1054:GLN:HG2	2.01	0.42
2:E:47:TRP:HE3	3:F:98:ILE:HD13	1.84	0.42
2:G:63:LEU:O	2:G:67:VAL:HG12	2.19	0.42
2:G:127:PRO:HB3	2:G:215:VAL:HG13	2.01	0.42
1:A:1008:VAL:O	1:A:1012:LEU:HD23	2.18	0.42
1:A:1105:THR:HG1	1:A:1106:GLN:H	1.67	0.42
1:A:1105:THR:HG1	1:A:1111:GLU:H	1.64	0.42
1:C:864:LEU:HG	1:C:865:LEU:HD22	2.01	0.42
1:C:1054:GLN:OE1	1:C:1063:LEU:HD13	2.19	0.42
2:E:39:GLN:HG3	2:E:45:LEU:CD2	2.49	0.42
3:F:34:VAL:HG12	3:F:52:ASP:OD1	2.19	0.42
2:I:2:VAL:HG21	2:I:94:ARG:HH12	1.84	0.42
1:A:66:HIS:CG	1:A:66:HIS:O	2.72	0.42
1:A:567:ARG:HD2	1:A:571:ASP:HA	2.00	0.42
1:B:196:ASN:HD21	1:B:234:ASN:HA	1.85	0.42
1:B:760:CYS:HA	1:B:763:LEU:HB2	2.01	0.42
1:B:805:ILE:HD12	1:B:1052:PHE:HE2	1.84	0.42
1:B:877:LEU:HD12	1:B:878:LEU:N	2.34	0.42
1:B:991:VAL:HG13	1:B:995:ARG:HH21	1.84	0.42
1:C:381:GLY:HA3	1:C:430:THR:HG23	2.01	0.42
1:C:1008:VAL:HA	1:C:1011:GLN:HB2	2.02	0.42
3:J:35:GLN:HG3	3:J:50:TYR:HB3	2.00	0.42
3:J:54:GLN:OE1	3:J:54:GLN:HA	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:86:PHE:CE1	1:A:196:ASN:HB2	2.53	0.42
1:A:884:SER:HB3	1:A:893:ALA:HB1	2.01	0.42
1:B:47:VAL:HB	1:B:49:HIS:HE1	1.84	0.42
1:C:391:CYS:HB3	1:C:522:ALA:HB3	2.00	0.42
3:H:64:SER:O	3:H:76:LEU:HD12	2.19	0.42
2:I:188:VAL:HG11	2:I:198:TYR:HE2	1.85	0.42
3:J:35:GLN:HB3	3:J:92:GLN:HB3	2.01	0.42
1:A:895:GLN:OE1	1:A:895:GLN:N	2.35	0.42
1:B:296:LEU:O	1:B:300:LYS:HG2	2.20	0.42
1:C:569:ILE:H	1:C:569:ILE:HD12	1.84	0.42
1:C:597:VAL:HG13	1:C:608:VAL:HG23	2.01	0.42
1:C:663:ASP:OD1	1:C:664:ILE:N	2.52	0.42
1:C:1021:SER:HA	1:C:1024:LEU:HD12	2.00	0.42
1:A:642:VAL:HG22	1:A:651:ILE:HG22	2.00	0.42
1:A:1093:GLY:CA	1:A:1105:THR:O	2.68	0.42
1:B:992:GLN:HA	1:B:995:ARG:NE	2.34	0.42
1:C:390:LEU:HD13	1:C:392:PHE:CE2	2.55	0.42
2:E:22:CYS:HB3	2:E:78:PHE:CE2	2.55	0.42
2:E:51:ILE:HG13	2:E:57:THR:HG22	2.00	0.42
3:F:185:THR:HG23	3:F:188:GLN:H	1.83	0.42
1:B:705:VAL:HB	1:C:883:THR:HG21	2.01	0.42
1:B:1084:ASP:HB3	1:B:1086:LYS:HZ2	1.85	0.42
1:C:55:PHE:HB2	1:C:273:ARG:HB2	2.02	0.42
1:C:368:LEU:HD23	1:C:371:LEU:HA	2.02	0.42
1:C:526:GLY:HA2	1:C:527:PRO:HD3	1.89	0.42
2:E:66:ARG:O	2:E:82:LEU:HA	2.20	0.42
2:I:70:SER:O	2:I:79:SER:N	2.34	0.42
1:A:774:GLN:O	1:A:777:ASN:HB3	2.20	0.42
1:A:870:ILE:O	1:A:874:THR:HG23	2.19	0.42
1:B:811:LYS:HG2	1:B:813:SER:H	1.85	0.42
1:B:986:PRO:O	1:B:990:GLU:HG2	2.19	0.42
1:B:1008:VAL:HA	1:B:1011:GLN:HB2	2.00	0.42
1:C:198:ASP:OD1	1:C:198:ASP:N	2.47	0.42
3:F:83:THR:HA	3:F:109:VAL:HG21	2.02	0.42
1:A:660:TYR:HB2	1:A:695:TYR:OH	2.20	0.42
1:A:1083:HIS:CE1	1:A:1136:THR:HA	2.55	0.42
1:B:58:PHE:HB3	1:B:59:PHE:CD2	2.55	0.42
1:B:656:VAL:HG21	1:B:693:ILE:HB	2.01	0.42
1:C:123:ALA:O	1:C:174:PRO:HG3	2.20	0.42
1:C:1083:HIS:O	1:C:1086:LYS:HG2	2.19	0.42
3:J:35:GLN:N	3:J:92:GLN:O	2.28	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:339:ASP:HA	1:A:369:TYR:CE1	2.54	0.42
1:A:659:SER:HB3	1:A:698:SER:OG	2.20	0.42
1:A:1005:GLN:HA	1:A:1008:VAL:HG12	2.02	0.42
1:B:305:SER:OG	1:B:307:THR:O	2.32	0.42
1:B:491:PRO:HB2	1:B:492:LEU:H	1.71	0.42
1:B:973:ILE:HG23	1:B:974:SER:N	2.35	0.42
1:C:295:PRO:HB2	1:C:608:VAL:CG2	2.50	0.42
1:C:726:ILE:O	1:C:727:LEU:HD12	2.20	0.42
1:C:733:LYS:HD2	1:C:861:LEU:HB2	2.02	0.42
3:H:80:GLY:O	3:H:82:ARG:NH1	2.52	0.42
1:A:386:LYS:O	1:A:390:LEU:N	2.53	0.41
1:A:791:THR:O	1:A:793:PRO:HD3	2.20	0.41
1:A:966:LEU:HD12	1:A:1000:ARG:HH22	1.85	0.41
1:B:969:LYS:CE	1:B:972:ALA:HB3	2.50	0.41
2:I:150:PHE:HA	2:I:151:PRO:HA	1.75	0.41
1:A:197:ILE:HG13	1:A:198:ASP:OD2	2.19	0.41
1:A:739:THR:O	1:A:743:CYS:N	2.47	0.41
1:B:732:THR:O	1:B:734:THR:HG23	2.20	0.41
1:B:805:ILE:HG13	1:B:806:LEU:N	2.35	0.41
1:B:896:ILE:HG13	1:B:897:PRO:HD2	2.01	0.41
1:C:102:ARG:O	1:C:121:ASN:N	2.38	0.41
1:C:382:VAL:HG11	1:C:515:PHE:CE2	2.55	0.41
1:C:568:ASP:N	1:C:572:THR:O	2.30	0.41
1:C:645:THR:HB	1:C:670:ILE:HD13	2.01	0.41
2:E:46:GLU:HA	3:F:99:TRP:O	2.19	0.41
2:I:52:ASN:HD21	2:I:56:SER:HB2	1.83	0.41
1:A:96:GLU:O	1:A:188:ASN:HB2	2.18	0.41
1:C:731:MET:CG	1:C:732:THR:N	2.82	0.41
2:E:7:TRP:HH2	2:E:77:GLN:HG2	1.84	0.41
2:G:103:THR:O	2:G:104:LEU:HD22	2.21	0.41
3:H:168:PRO:HA	3:H:177:ALA:O	2.19	0.41
2:I:152:GLU:HG2	2:I:153:PRO:HA	2.02	0.41
1:A:37:TYR:CD2	1:A:204:TYR:HE2	2.38	0.41
1:A:897:PRO:O	1:A:901:GLN:HG3	2.21	0.41
1:A:1106:GLN:HB3	1:A:1113:GLN:HE22	1.86	0.41
1:B:595:VAL:HA	1:B:611:LEU:O	2.19	0.41
1:B:781:VAL:O	1:B:1029:MET:HG2	2.19	0.41
1:B:951:VAL:O	1:B:954:HIS:HB2	2.19	0.41
1:C:552:LEU:HB3	1:C:585:LEU:HD21	2.02	0.41
1:C:969:LYS:HA	1:C:969:LYS:HD2	1.72	0.41
1:C:1103:PHE:CB	1:C:1112:PRO:HB3	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:665:PRO:HA	1:A:671:CYS:SG	2.60	0.41
1:A:965:GLN:HB3	1:A:970:PHE:HZ	1.85	0.41
1:A:1109:PHE:CG	1:A:1110:TYR:N	2.89	0.41
1:B:997:ILE:HG23	1:B:1000:ARG:CZ	2.51	0.41
1:C:107:GLY:H	1:C:235:ILE:HG23	1.86	0.41
1:C:532:ASN:HA	2:I:28:SER:CB	2.49	0.41
1:C:773:GLU:O	1:C:776:LYS:HG2	2.20	0.41
1:C:1093:GLY:HA2	1:C:1105:THR:O	2.20	0.41
2:E:35:SER:HB2	2:E:37:ILE:HD11	2.03	0.41
2:G:59:TYR:OH	2:G:69:ILE:HG22	2.20	0.41
1:A:658:ASN:HB3	1:A:660:TYR:CZ	2.55	0.41
1:A:702:GLU:HA	1:B:788:ILE:O	2.19	0.41
1:A:789:TYR:CE2	1:A:893:ALA:HB2	2.56	0.41
1:B:273:ARG:HD3	1:B:290:ASP:OD1	2.20	0.41
1:B:698:SER:C	1:B:700:GLY:H	2.23	0.41
1:C:347:PHE:CE2	1:C:399:SER:HB2	2.55	0.41
1:C:350:VAL:HG23	1:C:400:PHE:CD2	2.56	0.41
1:C:596:SER:HB2	1:C:611:LEU:HD23	2.02	0.41
1:A:169:GLU:OE2	1:A:171:VAL:HG23	2.20	0.41
1:A:195:LYS:HE3	1:A:197:ILE:CG2	2.49	0.41
1:A:612:TYR:O	1:A:648:GLY:HA3	2.20	0.41
1:A:699:LEU:CG	1:B:788:ILE:HG13	2.44	0.41
1:A:737:ASP:OD1	1:A:738:CYS:N	2.53	0.41
1:A:1030:SER:HA	1:A:1034:LEU:HB2	2.03	0.41
1:B:49:HIS:O	1:B:276:LEU:HD12	2.19	0.41
1:B:365:TYR:CD1	2:E:99:PHE:HE1	2.39	0.41
1:C:370:ASN:HD22	1:C:374:PHE:HE1	1.68	0.41
1:C:377:PHE:HE1	2:I:98:ILE:HG13	1.84	0.41
1:C:753:LEU:HD21	1:C:760:CYS:SG	2.60	0.41
1:C:858:LEU:HD13	1:C:962:LEU:HD23	2.02	0.41
1:C:1019:ARG:HG3	1:C:1019:ARG:NH1	2.35	0.41
2:E:33:TYR:CE2	2:E:50:LEU:HD13	2.56	0.41
3:F:29:ILE:N	3:F:72:ASN:OD1	2.44	0.41
2:G:150:PHE:HA	2:G:151:PRO:HA	1.83	0.41
3:J:111:GLY:N	3:J:144:TYR:OH	2.32	0.41
1:A:826:VAL:HG21	1:A:1057:PRO:HG2	2.03	0.41
1:B:347:PHE:CE1	1:B:399:SER:HB2	2.55	0.41
1:C:107:GLY:O	1:C:237:ARG:HG3	2.20	0.41
1:C:577:ARG:HH11	1:C:578:ASP:N	2.15	0.41
1:C:984:LEU:HD23	1:C:984:LEU:HA	1.85	0.41
1:C:1024:LEU:O	1:C:1027:THR:OG1	2.31	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1029:MET:HE3	1:C:1029:MET:HA	2.03	0.41
1:C:1095:PHE:HB3	1:C:1102:TRP:CE3	2.55	0.41
2:E:11:LEU:O	2:E:12:LEU:HD22	2.21	0.41
2:E:104:LEU:HG	3:F:50:TYR:OH	2.21	0.41
3:F:98:ILE:HG22	3:F:100:VAL:HB	2.02	0.41
2:G:98:ILE:O	2:G:101:VAL:HG23	2.20	0.41
1:A:817:PHE:O	1:A:821:LEU:HG	2.20	0.41
1:B:498:ARG:HD2	1:B:501:TYR:CZ	2.56	0.41
1:B:715:PRO:HG2	1:B:1108:ASN:HA	2.03	0.41
1:B:905:ARG:HH12	1:B:1036:GLN:N	2.19	0.41
1:B:1030:SER:O	1:B:1034:LEU:HB2	2.21	0.41
1:C:95:ILE:HA	1:C:188:ASN:O	2.20	0.41
1:C:403:ARG:HB2	1:C:504:GLY:O	2.21	0.41
1:C:645:THR:HB	1:C:670:ILE:CD1	2.51	0.41
1:C:712:ILE:HD13	1:C:1077:THR:HG23	2.02	0.41
1:C:804:GLN:OE1	1:C:804:GLN:N	2.46	0.41
1:C:815:ARG:HB2	1:C:820:ASP:OD1	2.20	0.41
1:C:866:THR:O	1:C:870:ILE:HG13	2.20	0.41
1:C:1104:VAL:HG23	1:C:1115:ILE:HG13	2.02	0.41
2:E:36:TRP:HB3	2:E:80:LEU:HD12	2.02	0.41
2:G:37:ILE:HG22	2:G:45:LEU:HD22	2.03	0.41
3:H:146:GLY:HA3	3:H:176:TYR:CD2	2.56	0.41
2:I:39:GLN:HE21	2:I:45:LEU:CD2	2.33	0.41
2:I:127:PRO:HG3	2:I:213:LYS:HD2	2.03	0.41
1:A:43:PHE:CE1	1:A:283:GLY:HA3	2.56	0.41
1:A:363:ALA:HB1	1:A:365:TYR:CE2	2.56	0.41
1:A:763:LEU:HD21	1:A:1005:GLN:HG3	2.02	0.41
1:A:789:TYR:CE2	1:A:888:PHE:HB2	2.57	0.41
1:A:928:ASN:O	1:A:931:ILE:HB	2.21	0.41
1:A:1089:PHE:HB3	1:B:913:GLN:OE1	2.21	0.41
1:B:536:ASN:C	1:B:537:LYS:HD2	2.42	0.41
1:B:664:ILE:CG2	1:B:672:ALA:HB3	2.51	0.41
1:B:868:GLU:HG2	1:B:869:MET:N	2.36	0.41
1:C:714:ILE:HD13	1:C:1105:THR:HG23	2.03	0.41
1:C:733:LYS:HE3	1:C:774:GLN:HE21	1.83	0.41
3:F:122:PHE:HB2	3:F:137:VAL:HB	2.03	0.41
1:A:295:PRO:HB2	1:A:608:VAL:HG21	2.02	0.40
1:A:318:PHE:O	1:A:592:PHE:HB2	2.20	0.40
1:A:714:ILE:HD13	1:A:1110:TYR:HB2	2.02	0.40
1:A:815:ARG:HH22	1:A:823:PHE:HB2	1.86	0.40
1:A:867:ASP:OD1	1:A:868:GLU:HG3	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:869:MET:SD	1:C:699:LEU:HD21	2.61	0.40
1:B:430:THR:HG22	1:B:515:PHE:HB2	2.03	0.40
1:B:536:ASN:O	1:B:537:LYS:HD2	2.22	0.40
1:B:1114:ILE:HG22	1:B:1116:THR:HG23	2.03	0.40
1:C:776:LYS:HZ1	1:C:1019:ARG:HH21	1.67	0.40
2:G:20:LEU:HD12	2:G:20:LEU:HA	1.94	0.40
2:I:64:LYS:HE3	2:I:64:LYS:HB2	1.75	0.40
3:J:78:ILE:HD11	3:J:89:TYR:HE2	1.85	0.40
3:J:89:TYR:HB2	3:J:105:THR:OG1	2.21	0.40
1:A:328:ARG:HB2	1:A:543:PHE:CD1	2.51	0.40
1:A:905:ARG:CD	1:A:1050:MET:HB3	2.51	0.40
1:A:1089:PHE:HB2	1:A:1121:PHE:CE1	2.56	0.40
1:B:969:LYS:HD3	1:B:975:SER:N	2.36	0.40
1:C:128:ILE:O	1:C:169:GLU:HA	2.21	0.40
1:C:1082:CYS:HB2	1:C:1126:CYS:HB2	1.99	0.40
3:F:7:GLN:NE2	3:F:90:TYR:HA	2.36	0.40
2:I:34:TRP:CZ3	2:I:94:ARG:HB2	2.57	0.40
3:J:171:GLN:NE2	3:J:173:ASN:OD1	2.45	0.40
1:A:88:ASP:HB3	1:A:270:LEU:O	2.22	0.40
1:A:775:ASP:OD2	1:A:864:LEU:HB3	2.21	0.40
1:A:786:LYS:O	1:C:700:GLY:HA3	2.22	0.40
1:A:789:TYR:CD1	1:C:703:ASN:HB2	2.55	0.40
1:B:194:PHE:HB3	1:B:201:PHE:CZ	2.56	0.40
1:B:328:ARG:HH21	1:B:533:LEU:HG	1.87	0.40
1:B:769:GLY:O	1:B:770:ILE:C	2.60	0.40
1:B:1040:VAL:HG22	1:C:1031:GLU:CG	2.51	0.40
1:C:741:TYR:HD2	1:C:858:LEU:HD21	1.86	0.40
2:E:173:VAL:CG2	2:E:181:SER:HB2	2.52	0.40
2:I:37:ILE:HG21	2:I:107:TRP:CH2	2.56	0.40
3:J:50:TYR:CD1	3:J:56:PRO:HG3	2.57	0.40
1:A:559:PHE:CZ	1:A:575:ALA:HB3	2.57	0.40
1:A:593:GLY:HA3	1:A:613:GLN:O	2.21	0.40
1:A:655:TYR:OH	1:A:696:THR:HG23	2.21	0.40
1:A:727:LEU:HD12	1:A:1062:PHE:CE1	2.57	0.40
1:A:741:TYR:CD2	1:A:742:ILE:HG13	2.53	0.40
1:A:906:PHE:HE1	1:A:1049:LEU:HD11	1.87	0.40
1:A:1097:SER:HB2	1:A:1102:TRP:CD2	2.56	0.40
1:B:894:LEU:H	1:B:894:LEU:HD12	1.86	0.40
1:B:981:PHE:HZ	1:B:993:ILE:CG2	2.34	0.40
1:B:997:ILE:HA	1:B:1000:ARG:CD	2.52	0.40
1:C:762:GLN:HA	1:C:765:ARG:NE	2.36	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:H:89:TYR:N	3:H:105:THR:O	2.48	0.40
2:I:150:PHE:CE2	2:I:179:LEU:HD13	2.54	0.40
3:J:56:PRO:O	3:J:59:VAL:HG22	2.22	0.40
1:A:29:THR:HG23	1:A:62:VAL:HG23	2.03	0.40
1:A:37:TYR:HB3	1:A:223:LEU:HB3	2.04	0.40
1:A:328:ARG:NH1	1:A:531:THR:HB	2.37	0.40
1:A:534:VAL:HG11	1:A:539:VAL:HG11	2.04	0.40
1:A:551:VAL:HG22	1:A:553:THR:HG23	2.02	0.40
1:A:1029:MET:O	1:A:1033:VAL:HB	2.22	0.40
1:A:1105:THR:OG1	1:A:1106:GLN:N	2.54	0.40
1:B:714:ILE:HD13	1:B:1110:TYR:HB2	2.04	0.40
1:B:1067:TYR:OH	1:B:1108:ASN:OD1	2.11	0.40
1:C:980:ILE:HG21	1:C:993:ILE:HG23	2.03	0.40
2:E:210:LYS:HB3	2:E:210:LYS:HE3	1.81	0.40
3:F:188:GLN:O	3:F:195:TYR:OH	2.40	0.40
2:G:33:TYR:HB2	2:G:102:VAL:HG22	2.04	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	A	953/1261 (76%)	889 (93%)	63 (7%)	1 (0%)	51 85
1	B	957/1261 (76%)	887 (93%)	70 (7%)	0	100 100
1	C	956/1261 (76%)	884 (92%)	72 (8%)	0	100 100
2	E	221/224 (99%)	208 (94%)	13 (6%)	0	100 100
2	G	221/224 (99%)	206 (93%)	15 (7%)	0	100 100
2	I	221/224 (99%)	216 (98%)	5 (2%)	0	100 100
3	F	210/216 (97%)	199 (95%)	11 (5%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	H	210/216 (97%)	197 (94%)	13 (6%)	0	100	100
3	J	210/216 (97%)	199 (95%)	11 (5%)	0	100	100
All	All	4159/5103 (82%)	3885 (93%)	273 (7%)	1 (0%)	100	100

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	532	ASN

5.3.2 Protein sidechains (i)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	788/1098 (72%)	786 (100%)	2 (0%)	92	95
1	B	787/1098 (72%)	784 (100%)	3 (0%)	91	94
1	C	788/1098 (72%)	785 (100%)	3 (0%)	91	94
2	E	188/190 (99%)	188 (100%)	0	100	100
2	G	188/190 (99%)	188 (100%)	0	100	100
2	I	188/190 (99%)	187 (100%)	1 (0%)	88	93
3	F	182/186 (98%)	182 (100%)	0	100	100
3	H	182/186 (98%)	181 (100%)	1 (0%)	88	93
3	J	182/186 (98%)	182 (100%)	0	100	100
All	All	3473/4422 (78%)	3463 (100%)	10 (0%)	92	95

All (10) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	765	ARG
1	A	995	ARG
1	B	44	ARG
1	B	408	ARG
1	B	1000	ARG

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Mol	Chain	Res	Type
1	C	765	ARG
1	C	964	LYS
1	C	1014	ARG
3	H	170	LYS
2	I	38	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (21) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	409	GLN
1	A	777	ASN
1	A	935	GLN
1	A	1113	GLN
1	B	196	ASN
1	B	658	ASN
1	B	955	ASN
1	B	1002	GLN
1	B	1010	GLN
1	B	1088	HIS
1	C	774	GLN
1	C	777	ASN
1	C	928	ASN
1	C	935	GLN
1	C	1010	GLN
1	C	1036	GLN
1	C	1048	HIS
3	F	92	GLN
2	G	52	ASN
3	H	35	GLN
3	H	92	GLN

5.3.3 RNA

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains

There are no non-standard protein/DNA/RNA residues in this entry.

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

There are no ligands in this entry.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

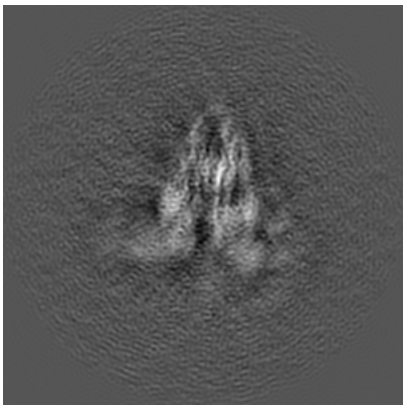
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-34808. These allow visual inspection of the internal detail of the map and identification of artifacts.

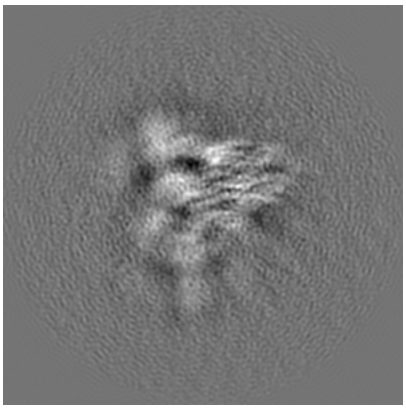
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

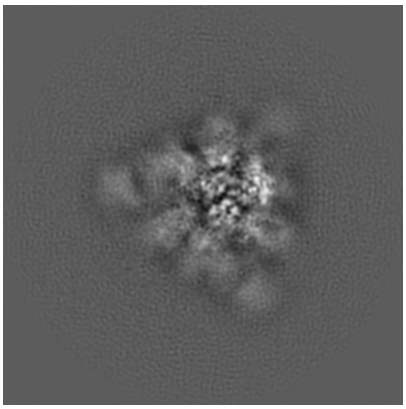
6.1.1 Primary map



X

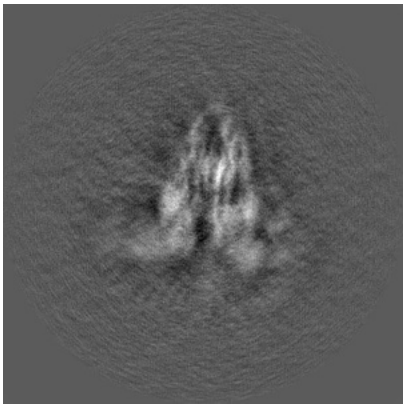


Y

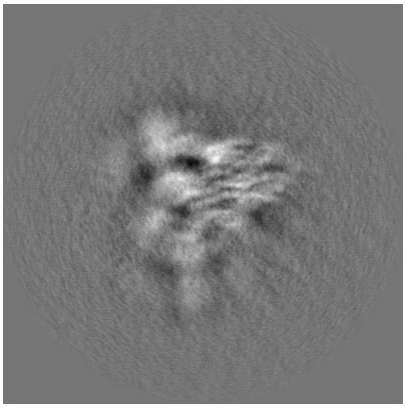


Z

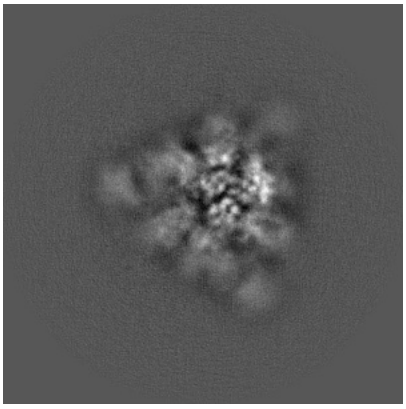
6.1.2 Raw map



X



Y

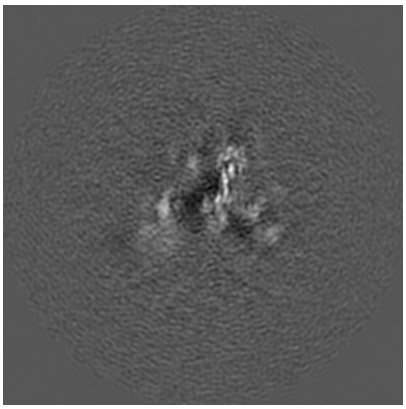


Z

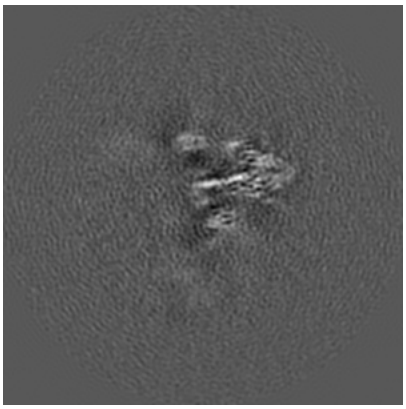
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

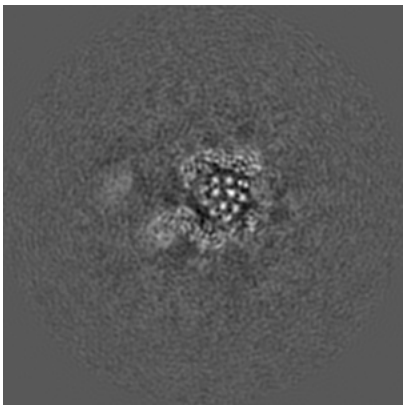
6.2.1 Primary map



X Index: 162

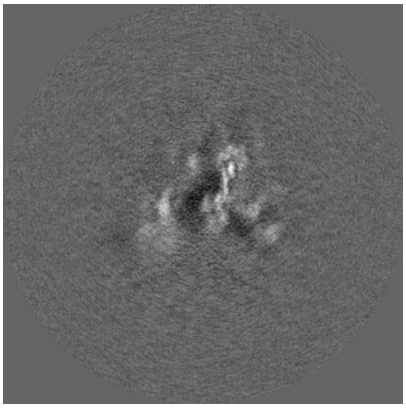


Y Index: 162

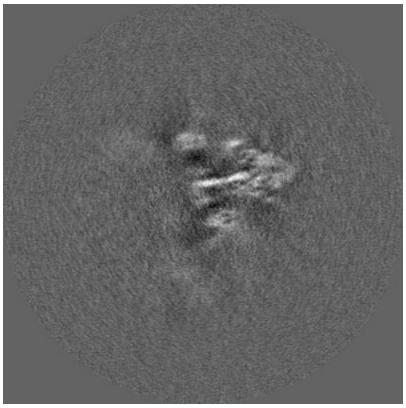


Z Index: 162

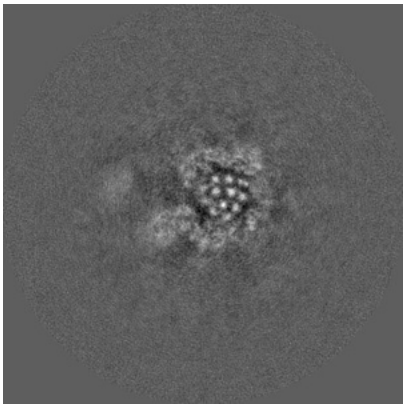
6.2.2 Raw map



X Index: 162



Y Index: 162

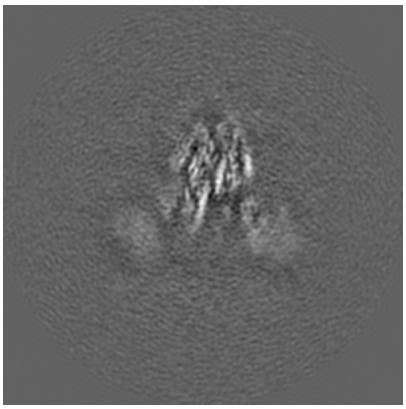


Z Index: 162

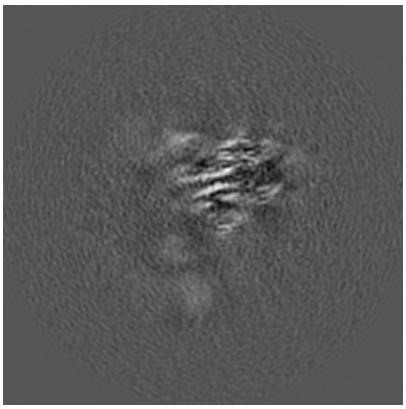
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

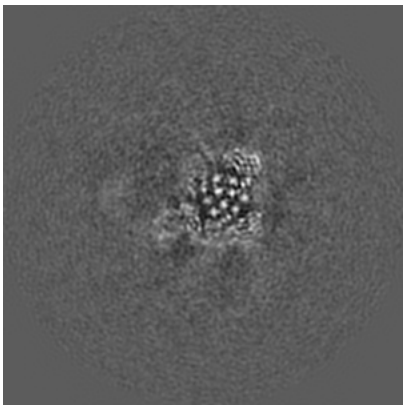
6.3.1 Primary map



X Index: 178

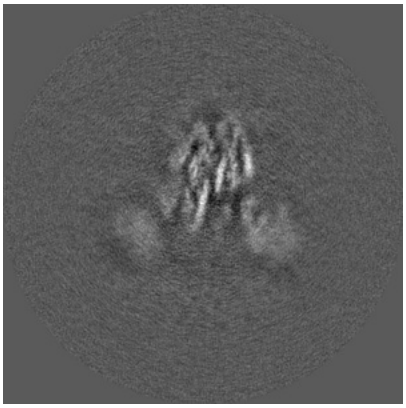


Y Index: 173

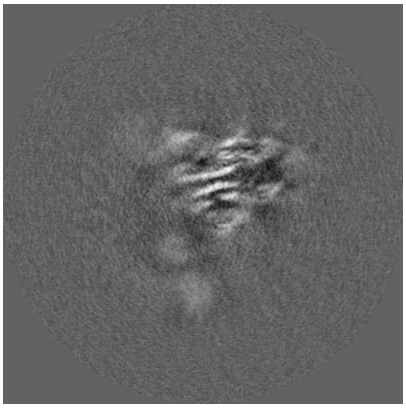


Z Index: 167

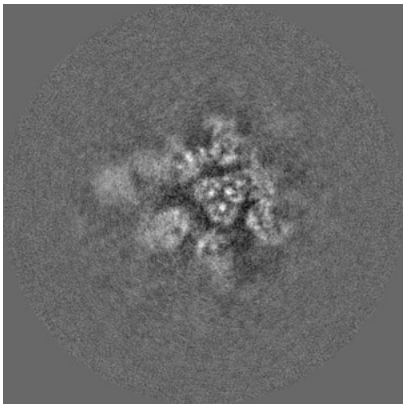
6.3.2 Raw map



X Index: 178



Y Index: 173

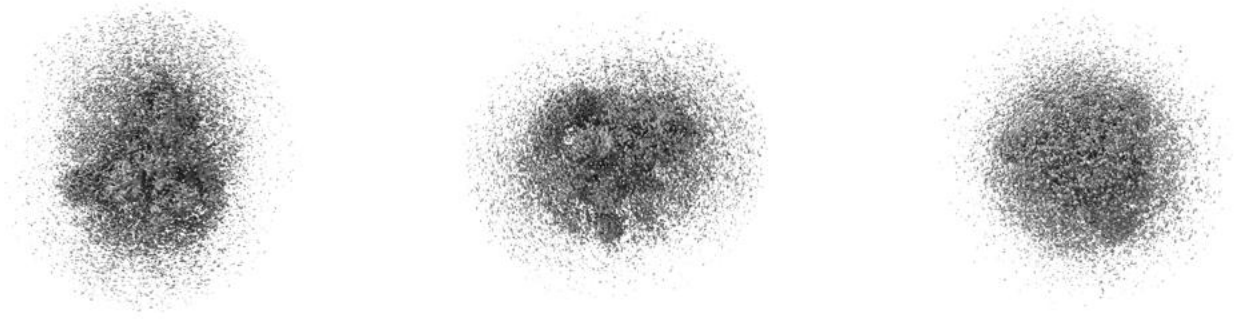


Z Index: 153

The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal surface views (i)

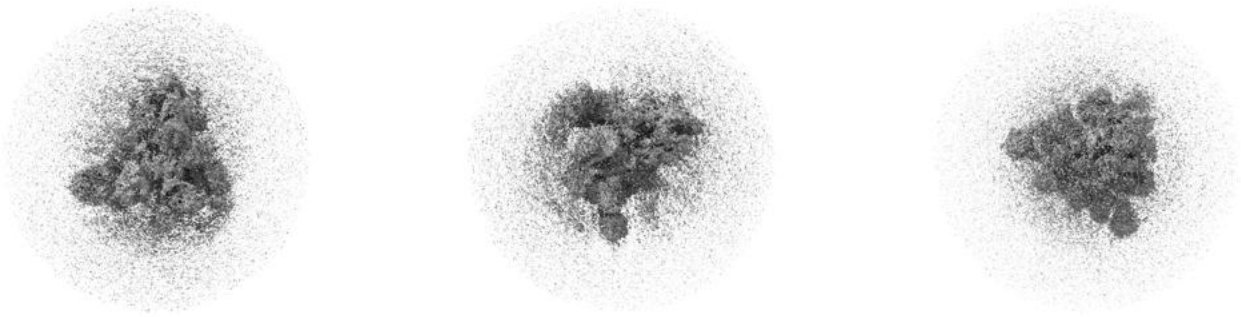
6.4.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.0037. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.4.2 Raw map



X Y Z

These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

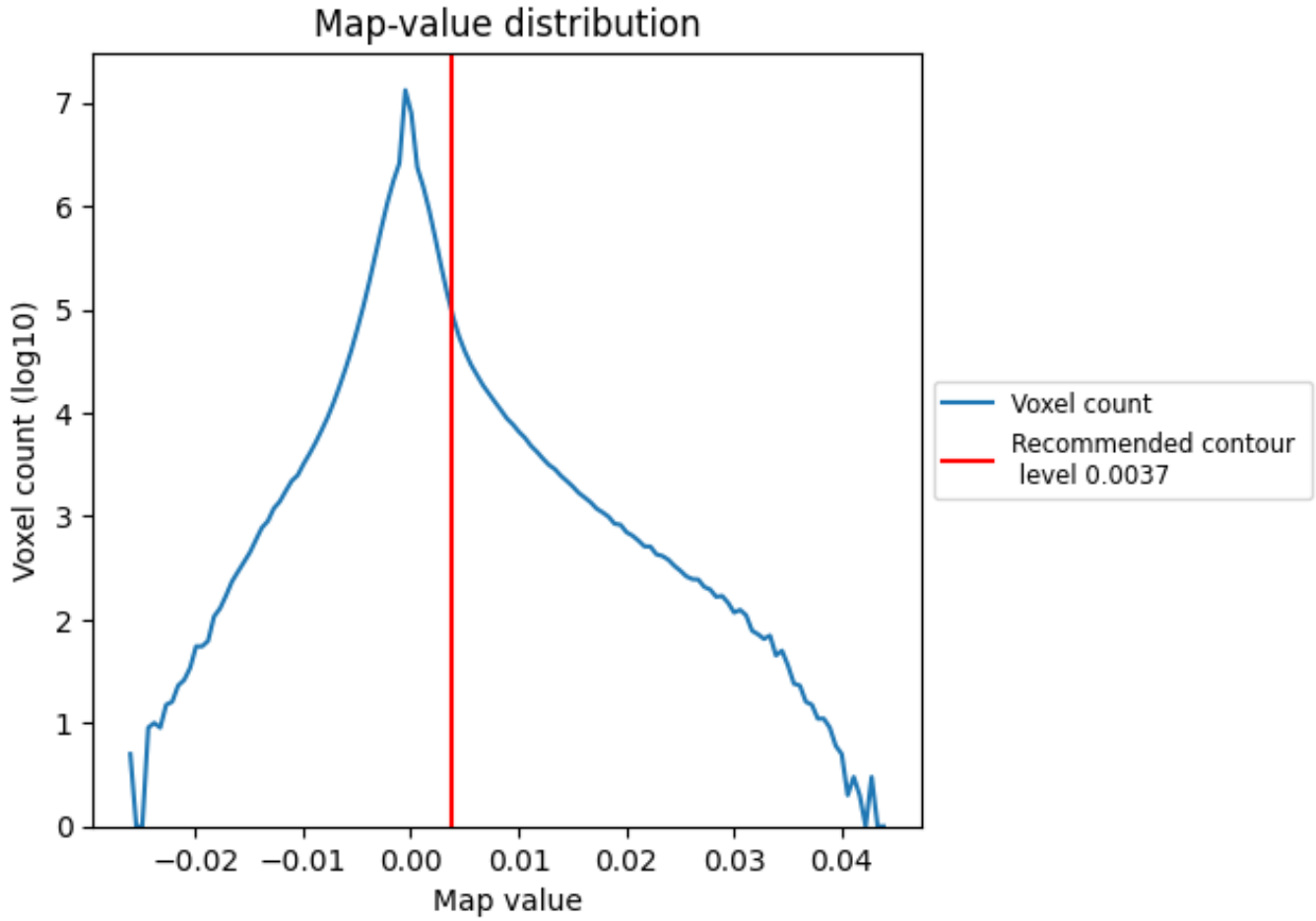
6.5 Mask visualisation (i)

This section was not generated. No masks/segmentation were deposited.

7 Map analysis

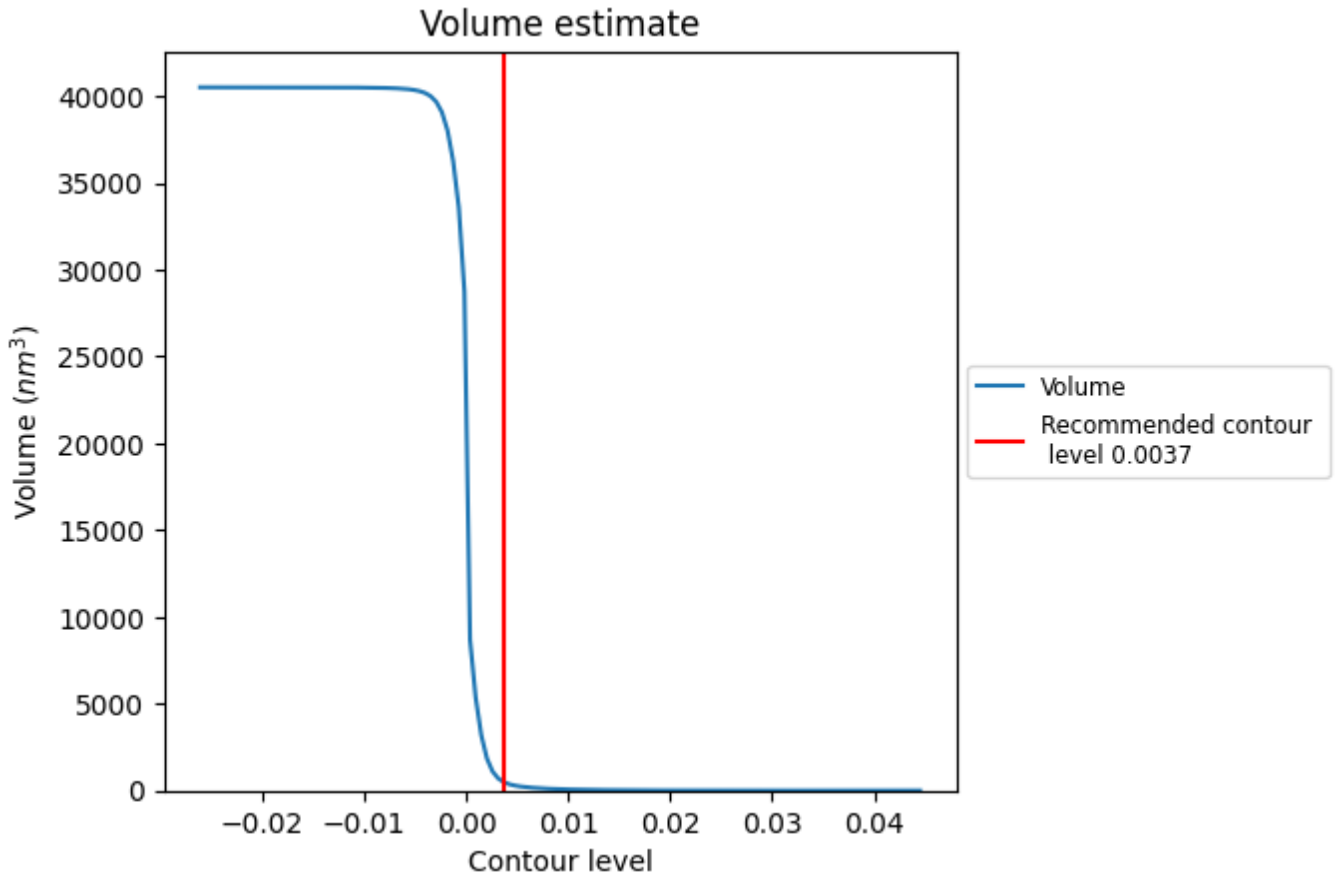
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

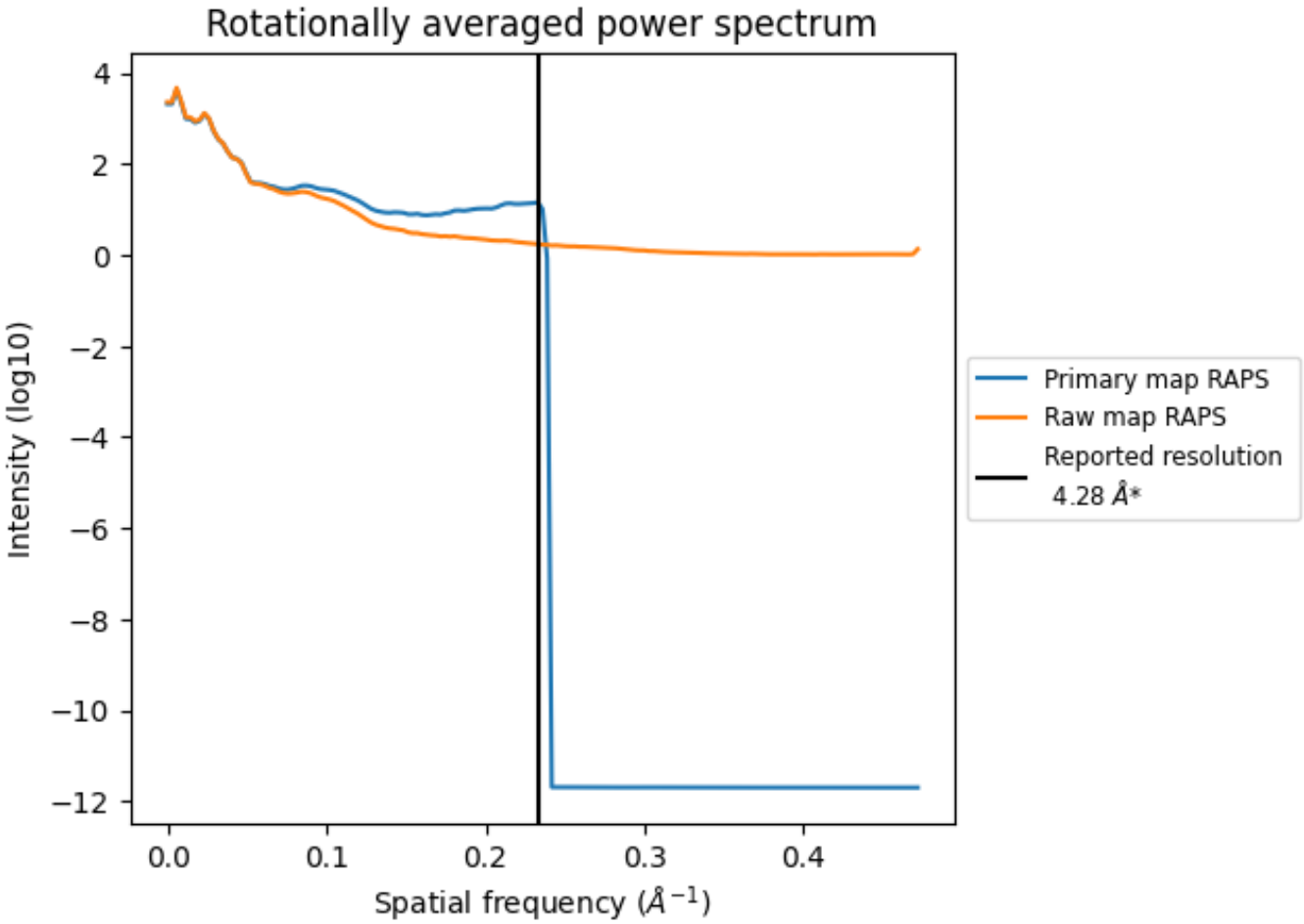
7.2 Volume estimate



The volume at the recommended contour level is 487 nm^3; this corresponds to an approximate mass of 440 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum (i)

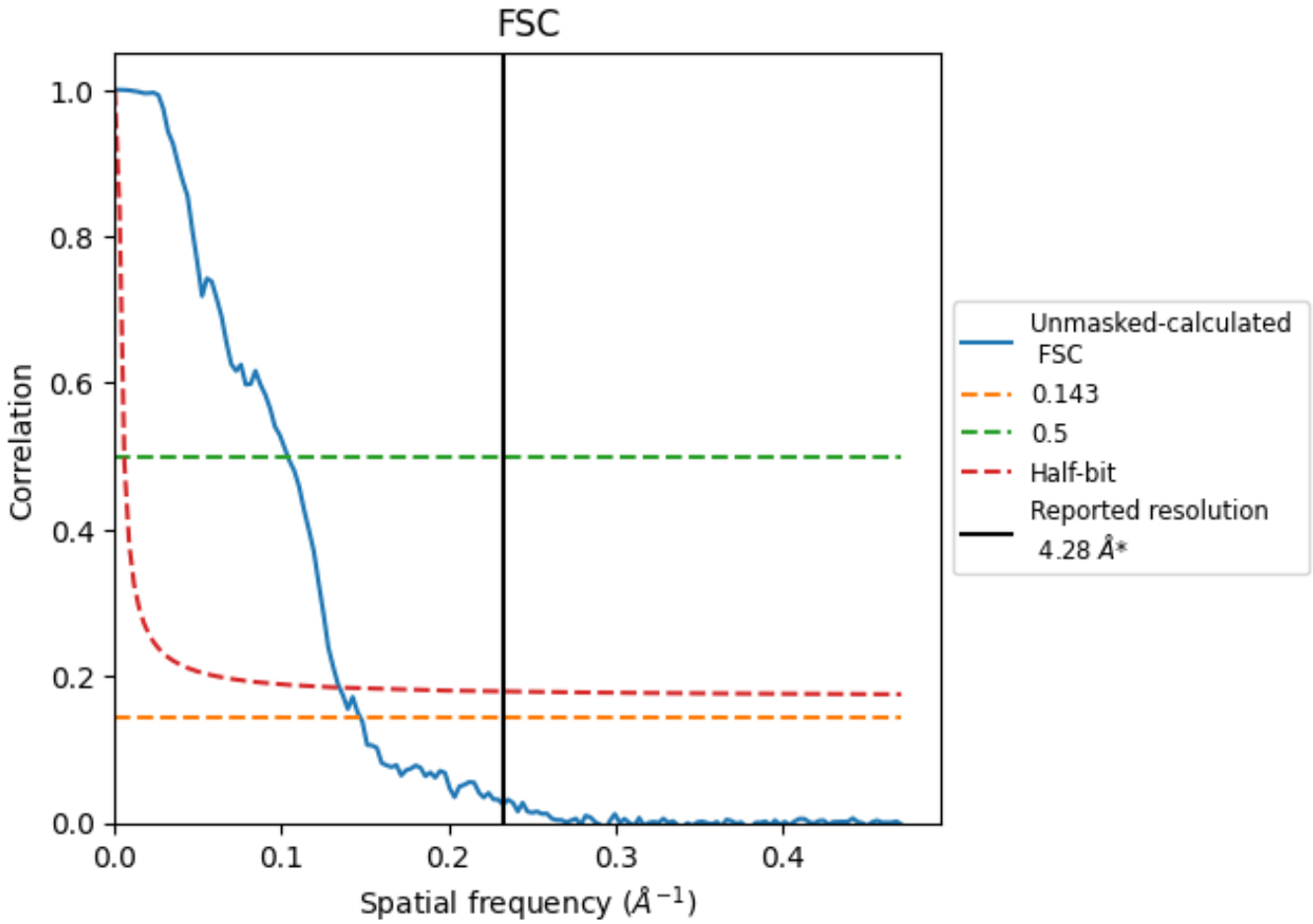


*Reported resolution corresponds to spatial frequency of 0.234 Å^{-1}

8 Fourier-Shell correlation

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.234 Å^{-1}

8.2 Resolution estimates (i)

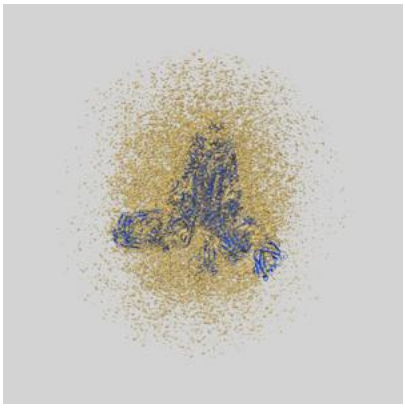
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	4.28	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	6.78	9.64	7.42

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 6.78 differs from the reported value 4.28 by more than 10 %

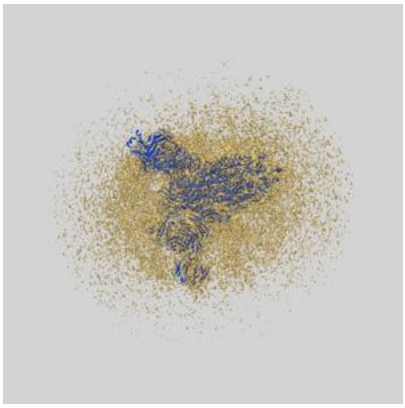
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-34808 and PDB model 8HHZ. Per-residue inclusion information can be found in section 3 on page 13.

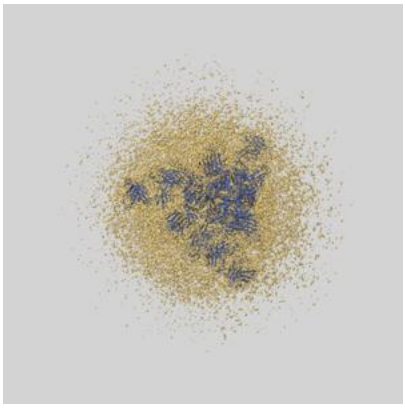
9.1 Map-model overlay



X



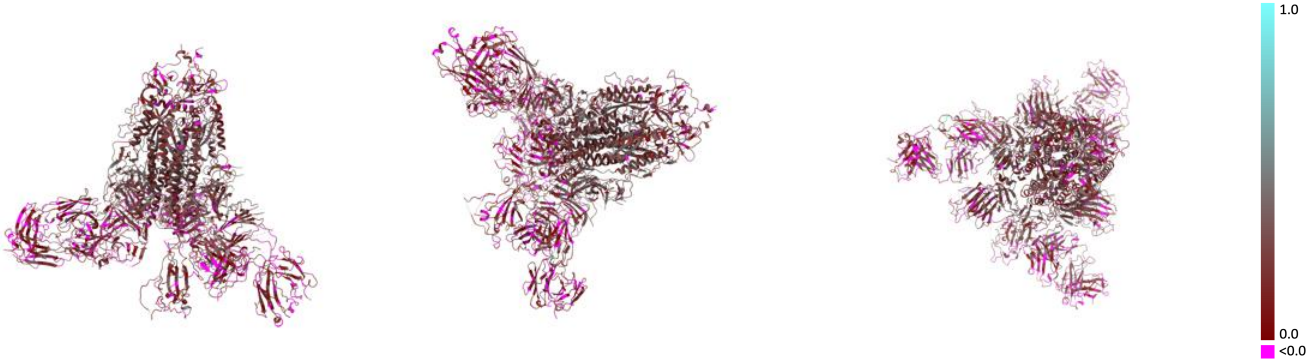
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.0037 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

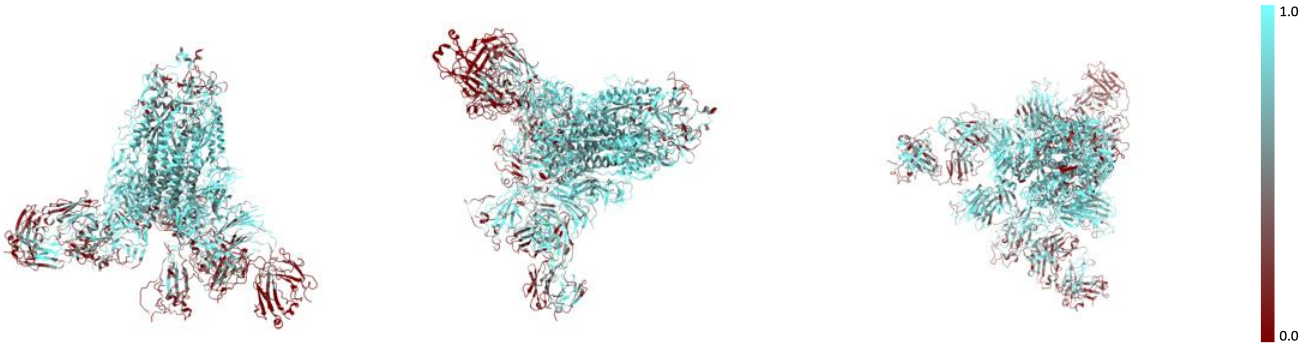
9.2 Q-score mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

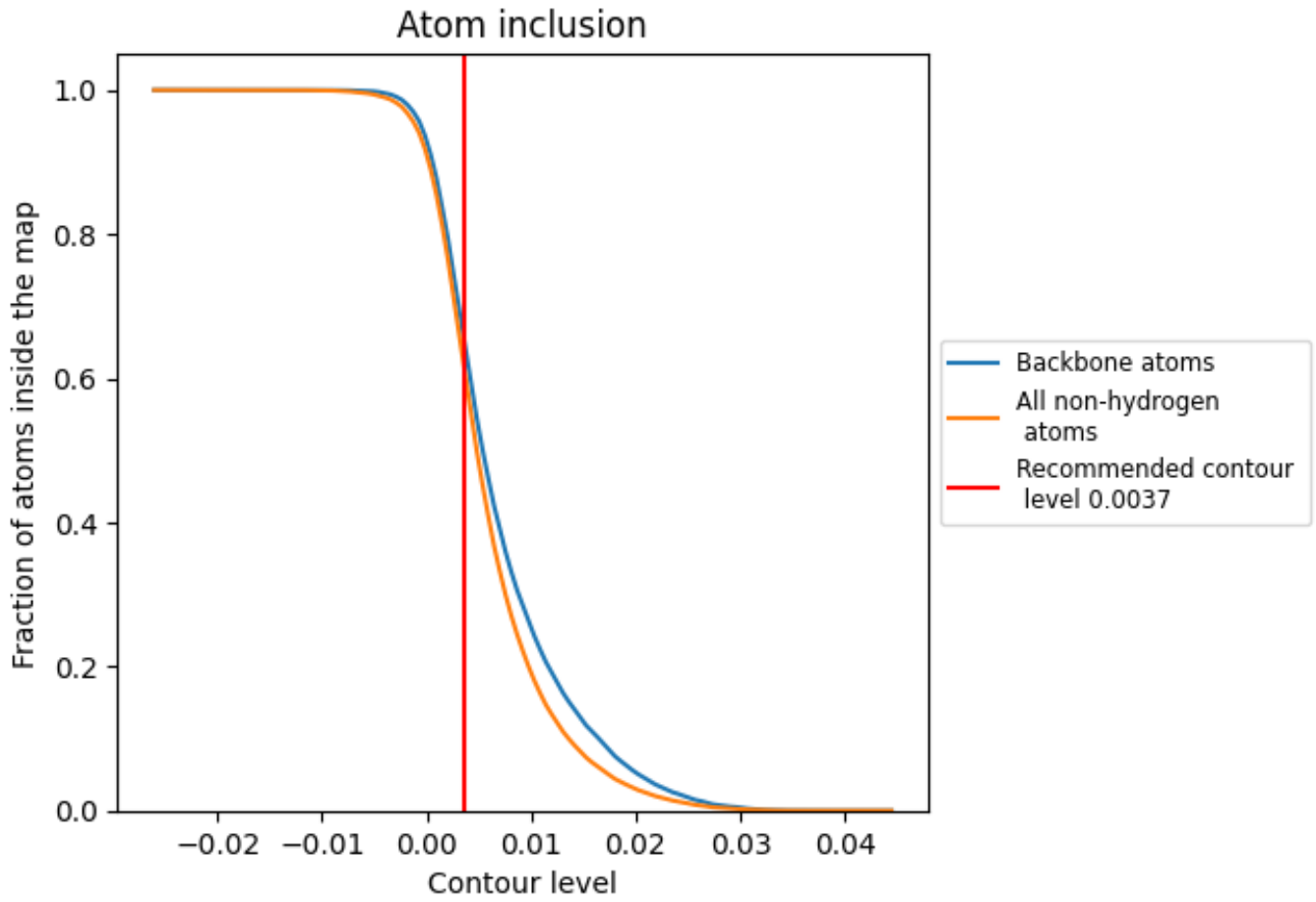
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.0037).

9.4 Atom inclusion (i)



At the recommended contour level, 64% of all backbone atoms, 60% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.0037) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.6049	0.2070
A	0.6603	0.2330
B	0.7096	0.2470
C	0.7246	0.2440
E	0.4107	0.1130
F	0.4506	0.1460
G	0.3106	0.1280
H	0.1785	0.1480
I	0.6102	0.1300
J	0.3805	0.1100